Dance Talent Development

Helsinki 2015

Research Report 366

Joey Chua

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Abstract

This qualitative study examined the culture-specific forms of dance talent development. Due to the scant and uneven literature in the field of dance talent development, this study firstly aimed at exploring the various theories and research methodologies underpinning current dance talent development literature. The other aims were to better understand how various catalysts and processes enhanced dancers' development at different stages and helped guide students in actualizing their potential. Hence, mapping the Finnish and Singaporean dancers' and dance students' talent trajectories later became the focus of this study.

This dissertation consists of three sections or (dance) "Acts", which are based on three sole-authored publications. *Act I* introduces the compilation and synthesis of empirically based articles published between 2000–2012 that dealt with the critical issues of developing dance talents across the lifespan of children, adolescents, and adults. Data from 37 accepted studies were abstracted into evidence tables relating to: (a) abilities and traits, (b) creativity, (c) motivation, and (d) social support. Findings and recommendations about future research were useful in clarifying the ontological, epistemological, and methodological lenses adopted in subsequent studies in this dissertation. In particular, definition of dance talents should be addressed using talent development theories, and more retrospective research about successful dancers and more prospective longitudinal research about talented students should be conducted.

Act II presents, via retrospective interviews, the key factors that impacted the talent development of the award-winning Singaporean (n = 4) and Finnish (n = 4) ballet and contemporary dancers. Integral to all the eight dancers' success were a high level of abilities, developed psychosocial skills, supportive and knowledgeable people, optimal learning opportunities, and chance. Four dancers' stories titled "Nonconformist," "Exemplary Dancer," "Go-Getter," and "Trailblazer"—revolving around the themes and developmental stages—illustrate the markedly different pathways for achieving success. The talent-development mega-model framed the discussions in *Acts I* and *II*.

The perspectives of students (n = 4), parents (n = 2), teachers (n = 6), and a sibling were analyzed in *Act III* in order to clarify how well significant individuals have supported the exceptionally talented dance students across the different stages of their talent development. The four *exceptionally talented* students were enrolled in their national dance institutions—the Finnish National Opera Ballet School and the Singapore Dance Theatre. Common themes that emerged from this prospective, two-year study were being there, sharing, and knowing that illustrated the types of support—instrumental, emotional, and informational—from families, peers, and teachers that contributed to the students' development.

A result of this dissertation is the creation of a conceptual framework of dance talent development that can be useful for future research. The framework describes abilities, motivational beliefs, supportive and knowledgeable people, learning opportunities, and social skills that are crucial for dance talent development across four stages—"budding," "blossoming," "maturing," and "seasoned."

The author has already utilized this framework in a longitudinal study involving male dance students. While this model emphasizes talent development in dance, it is hoped that this model is applicable in other domains.

Keywords: dance talent development, Finland, Singapore, talent-development mega-model, social support, cross-cultural study, gifted education

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Joey Chua

Huippulahjakkaaksi tanssijaksi kehittyminen

Tiivistelmä

Laadullinen tutkimus kohdistuu tutkimaan huippulahjakkaiden tanssijoiden kehittymisen kulttuurispesifejä muotoja. Artikkeliväitöskirja koostuu kolmesta osasta, jotka on nimetty ”näytöksiksi”. Ensimmäisen osan tutkimustehtävänä oli selvittää lahjakkaaksi tanssijaksi kehittymiseen liittyvää aiempaa tutkimusta. Toisena tutkimustehtävänä oli tutkia millaisia lahjakkaaksi kehittymiseen liittyviä avaintekijöitä lahjakkaat tanssijat löytävät omaan kasvu-uraansa liittyen. Kolmantena tutkimustehtävänä oli selvittää millaista tukea lahjakkaat tanssijat olivat saaneet vanhemmiltaan, opettajiltaan ja perheeltään.

Lahjakkaita tanssijoita on tähän mennessä tutkittu suhteellisen vähän ja sen vuoksi väitöstutkimukseen liittyvä ensimmäinen tutkimusosio tarkastelee ja luo katsauksen vuosina 2000–2012 julkaistuista lahjakkaita tanssijoita käsittelevästä tutkimuksesta tuoden esille aiheeseen liittyvät teoreettiset ja metodologiset tarkastelutavat. Näytös I esittelee, analysoi ja luo synteesin 2000–2012 empiiristen aineistojen kautta koottuun 37 tieteelliseen tutkimusartikkeliin, joissa on tutkittu lahjakkaaksi kehittymisprosessin kriittisiä tekijöitä erityisesti tanssilliseen lahjakkuuteen liittyen. Review-tutkimuksen kautta keskeisiksi tekijöiksi tanssilliseen lahjakkuuteen kasvussa ilmenivät yksilön a) kyvyt ja ominaisuudet, b) luovuus, c) motivaatio ja d) sosiaaliseen tuki.

Ensimmäisestä review-tutkimuksesta saadut tulokset olivat pohjana koko väitöstutkimukselle luoden ontologisen, epistemologisen ja metodologisen tarkastelukulman lahjakkaiden tanssijoiden kehityksen tarkastelulle lahjakkuusteorioiden valossa.

Väitöskirjan toinen osa, ”näytös II” tarkastelee huipputanssijoiden kokemia avaintekijöitä, jotka johtivat heidän lahjakkuutensa kehittymiseen huipulle. Tutkimusaineisto on kerätty teemahaastatteluin, joissa neljä singaporelaista ja neljä suomalaista huippulahjakasta baletti- ja nykytanssijaa muistelee takautuvasti kehityskaarensa avaintekijöitä. Kaikkien kahdeksan haastateltavan kohdalla ilmeni avaintekijöiden yhteys psykososiaalisiin taitoihin, kannustaviin ja yksilön lahjakkuuspotentiaalin tiedostaviin aikuisiin, optimaalisiin opiskelumahdollisuuksiin ja onnekkaisiin sattumiin. Tanssijoiden tarinat otsikoitiin ”Epäsovinnainen”, ”Esimerkillinen”, ”Kyynärpäätaktikko” ja ”Uranuurtaja” otsikoilla kuvastaen teemoja ja kehityksellisiä vaiheita, jotka kuvasivat erilaisia polkuja huippumenestykseen tanssijana. Huippulahjakkuudeksi kehittymisen mega-malli esitellään ensimmäisen ja toisen näytöksen pohdinta-osiossa.

Kolmas osa ”Näytös III” tarkastelee neljän tanssinopiskelijan, kahden vanhemman ja kuuden tanssinopettajan sekä yhden sisaruksen näkökulmia lahjakkaan tanssijan kehitykseen ja tukeen.

Neljä erityislahjakasta tanssiopiskelijaa olivat Suomen Kansallisoopperan balettikoulusta ja Singaporen Tanssiteatterista. Kahden vuoden aikana kerätty tutkimusaineisto toi esille erityislahjakkaiden tanssijoiden perheiltään, opettajiltaan ja tovereiltaan saadun välineellisen emotionaalinen sekä viestinnällinen tuen ja kannustuksen merkityksen erityislahjakkuuden kehittymisessä.

Tutkimuksen tulokset antavat käsitteellisen viitekehyksen huippulahjakkaiden tanssijoiden erityislahjakkuuden kehitysprosessin tarkasteluun. Keskeisinä tuloksina huippulahjakkaaksi tanssijaksi

kehittymisessä osoittautuivat motivationaaliset tekijät ja uskomukset, kannustavat, erityislahjakkuuden tunnistavat ja tiedostavat ihmiset, opiskelumahdollisuudet ja sosiaaliset taidot. Nämä tekijät osoittautuivat tässä tutkimuksessa olennaisiksi huippulahjakkaan tanssijan uran neljässä kehitysvaiheessa, joista ensimmäinen on luonteeltaan orastavan, toinen kukoistavan, kolmas kypsän ja neljäs kokeneen tanssijan kehitysvaihe. Vaikka tämä tapaustutkimus liittyy kahden maan huippulahjakkaiden tanssijoiden kokemuksista saatuihin tuloksiin, mallia voitaneen soveltaa myös muussa huippulahjakkaita koskevassa tutkimuksessa.

Avainsanat: tanssillisen erityislahjakkuuden kehittyminen, Suomi, Singapore, huippulahjakkuuden mega-malli, sosiaalinen tuki, kulttuurien välinen tutkimus, lahjakkaiden kasvatus

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Instrumental and emotional support: Family

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Joey Chua

Contents

List of original publications

This doctoral dissertation is based on the following publications:

I. Chua, J. (2014a). Dance talent development across the lifespan: A review of current research. *Research in Dance Education, 15*(1), 23–53. doi:10.1080/14647893.2013.825749

II. Chua, J. (2014b). Dance talent development: Case studies of successful dancers in Finland and Singapore. *Roeper Review, 36*(4), 249–263. doi:10.1080/02783193.2014.945220

III. Chua, J. (2015). The role of social support in dance talent development. *Journal for the Education of the Gifted.* doi:10.1177/0162353215578281

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1 Prologue

A dancer's life is tough.

Few exceptionally talented dance graduates ever reach the professional level. Most go through arduous training for more than a decade to gain some proficiency. Dancers in the competitive fields of classical ballet and contemporary dance face intense physical and psychological stress, as well as chronic injuries from rehearsals and performances. In fact, most have a brief career, meager pay (e.g., Burns & Harrison, 2009), and poor insurance coverage (Weiss, Shah, & Burchette, 2008). Despite this, the number of aspiring dance graduates overwhelmingly exceeds the performance positions available in the past decade (e.g., Bennett, 2009). Much more must be known in the discourse of talent development in terms of *what* these talented dancers' characteristics are and *how* to enhance their potential. With such knowledge, appropriate identification criteria and training processes can be prescribed to predict positive achievement outcomes for this understudied group.

The outline of this dissertation is conceptualized much like a dance performance. Similar to a full-length dance performance, this dissertation unfolds in a chronological manner—Prologue, Acts I to III, and Epilogue. The audience (reader) will witness choreographic tools (methods) being used to weave together the sub-plot (research synthesis) and the main plot in which dancers tell us (narratives) what their performance (talent development) is really about. Moral issues (directions for future research) will bring the dance to a close. Importantly, the choreographer (researcher as the "instrument") links these elements together into a performance or a "creative act" (Janesick, 2010, p. 44). My perspective is of a researcher who performs, choreographs, and teaches contemporary dance.

In this prologue, first, I provide a brief overview of the literature about adult dancers and dance students in order to situate the present study in the field of research of talent development. (An extended version is in Act I.) Second, I justify the research sites—Finland and Singapore—and the exclusion of sports literature in this study. Third, I briefly describe the cultural ethos underlying the educational systems and gifted programs of Finland and Singapore in order to contextualize this study that is anchored in cross-cultural comparisons. Next, I clarify definitional issues and conceptual frameworks.

Adult dancers. Apart from Gardner's (1993) investigation of American modern dance pioneer Martha Graham and Subotnik's (2002) interview with American choreographer Eliot Feld, dance has not received much attention from researchers in the field of talent development. Numerous retrospective studies, however, have been made about accomplished adults in business (Shavinina, 2006), literature (e.g., Gunersel, 2009), music (e.g., MacNamara, Holmes, & Collins, 2008), science (e.g., Koro-Ljungberg, 2002), and sports (e.g., Burton, VanHeest, Rallis, & Reis, 2006). In the popular literature, accounts of well-known dancers' achievements suggest that, inter alia, early identification of talent, certain physical endowment, and rigorous training were antecedents of a successful dance career (e.g., Kavanagh, 2012). Unfortunately, these factors do not sufficiently depict what contri-

butes to success for dancers; such anecdotal 'success stories' were not written as scientific data.

Research about the talent development of adult dancers is thus still in its infancy and, hence, little is known about the factors that promote dancers' development. Among these few articles, in their study of two Portuguese female contemporary dancers, Araújo, Cruz, and Almeida (2009) listed as antecedents to expertise such developmental factors as personality traits, hard work, discipline, commitment, and the influence of significant people. Although it is unclear who the "significant people" were, the dancers described them as people who "provided important socio-emotional support but also an inspiring role in their career choices and opportunities" (Araújo et al., 2009, p. 142). The experience of *flow* (Hefferon & Ollis, 2006) and *deliberate practice* (Critien & Ollis, 2006; Hutchinson, Sachs-Ericsson, & Ericsson, 2013; Ureña, 2004) had a positive impact on dancers' expertise development. *Flow* happens when people are completely absorbed in an activity (Csikszentmihalyi, 1991). With regard to deliberate practice, Hutchinson et al. claimed that the age at which the ballet dancers first "had the idea of becoming professional dancers" (e.g., the Russian dancers: $M = 7.3$, $SD = 4.0$; p. 34) predicted expertise development at age 18, whereas the age at which the dancers started training did not predict expertise development at age 18. Two contemporary dancers in the U.S. described their developmental experiences in terms of support from colleagues and creating a balance between family and work (Felix, 2004).

Among the few retrospective studies about adult dancers conducted to clarify the influences on their talent development (Araújo, Cruz, & Almeida, 2009, 2011; Felix, 2004), none to date have examined the issue from a developmental perspective. Researchers' relative neglect of dance, viewed from a developmental stance, leaves a lack of understanding about the factors that are relevant for helping a dancer to be successful. Thus, Act II of this dissertation aimed to identify the factors that contributed to the talent development of successful dancers from childhood to adulthood.

Dance students. From a developmental perspective, however, Bloom's (1985) three phases of learning have since been supported by studies in dance about students in the U.S. (Oreck, Baum, & McCartney, 2000) and the Netherlands (van Rossum, 2001). In particular, van Rossum investigated the use of Bloom's model of 129 dance conservatory (or vocational) students. He found that the dance students in the first phase were aged 5.3–10.6 and in the second phase were aged 8.0–15.0. Between 9.8 and 17.1 years old, they decided to become professional dancers. The average age of the students during the third phase was 22.1 ($SD = 3.1$). In sum, according to van Rossum, they took about ten years to complete the three phases. Out of all students, 78.3% rated teachers, 52.7% rated parents, and 37.2% rated friends as "the most important persons in [their] dance career" (students could vote more than one important person; pp. 186–187), thereby confirming Bloom's descriptions of parents and teachers, but not peers, as 'significant others' in talent development. From the quantitative data, however, it is unclear at which phases and in what ways these significant others were important to the students' development.

Besides van Rossum's (2001) study, only two studies about talent development had been done with pre-professional students (i.e., third phase) in national dance conservatories. Hence, little is known about how exceptionally talented dance students develop through the three phases. Nieminen, Varstala, and Manninen (2001) investigated Finnish students' goal orientations and purposes for dance study, while van Rossum (2004) examined the characteristics of "ideal" versus "daily" dance teachers in the Netherlands. *Daily* or current teachers refer to the teachers "with whom [the students] take the most classes" (p. 46).

On the other hand, a growing body of dance literature focused on the second phase with pre-vocational students in the U.K. about sociocultural variables (Sanchez, Aujla, & Nordin-Bates, 2013), commitment (Aujla, Nordin-Bates, & Redding, 2014), and self-efficacy (Pickard & Bailey, 2009) in dance. Other studies concerning the second phase were conducted with artistically talented (including dance) grade 9–12 students in the U.S. about social support from parents and teachers (Alfeld-Liro et al., 1998), social support from peers (Patrick et al., 1999), commitment in academics versus sports (Fredricks et al., 2002), and passion in academic versus nonacademic subjects (Fredricks, Alfeld, & Eccles, 2010) and, with pre-tertiary students in Singapore about flow and perceived support from family and school (Garces-Bacsal, 2013a, 2013b; Garces-Bacsal, Cohen, & Tan, 2011). Hence, again, little is known about *how* these second-phase students transition to the third-phase (granted that they later choose to pursue pre-professional dance training to become professional dancers).

Research about how pre-professional students thrive on social support in dance also remains largely uninvestigated. Considerable attention, however, has been paid to research in a range of domains such as classical music (e.g., Jarvin & Subotnik, 2010), non-classical music (Kamin, Richards, & Collins, 2007), art (Clark & Zimmerman, 1988), and sports (e.g., Wylleman & Lavallee, 2004), and the findings have been consistent: To realize potential talent, the talented individual requires certain types of support from family and teachers at each phase of development. As Sosniak (1990) has phrased it, "The development of talent did not happen in a vacuum [but was] a tribute to the support of many people and communities" (p. 158).

Furthermore, previous research about the role of family and teachers in talented dancers' and students' development is limited. No empirical studies, except for the report by Oreck et al. (2000), have investigated the phenomena from the perspectives of dance students, family members, and teachers. As Graham (2009) aptly observed, "One cannot fully understand an individual student's motivation to achieve ('can' and 'want') without also understanding their relationships with other people—in particular, what they think and feel about others and how others think and feel about them" (p. 113) since students' social lives and their talent development trajectories are intertwined. Thus, Act III of this dissertation aimed to examine the role of social support in the dance students' development in specific sociocultural contexts—Finland and Singapore—by eliciting the perspectives of dance students, their teachers and family members.

In sum, the limited and uneven literature points to the need for a clearer investigation of a research synthesis about talent development in dance (Act I), and about successful adult dancers (Act II) and exceptionally talented students from a cross-cultural perspective (Act III).

Exclusion of sports literature. Admittedly, dance is similar to sports because of the physical skills and dexterity both involve, so much so that dancers have been called "performing athletes" (Koutedakis & Jamurtas, 2004, p. 652). However, the role of memory in dancers elucidates a difference between sports and dance. That is, as Kogan (2002) asserts: "the kind of memory that permits recall and the expression of lengthy sequences of … bodily movements [that is] of minor concern to athletes" (pp. 3–4). Other than memory, the other cognitive processes necessary for dancers to synchronize their movements concern timing, music, and coordination with other dancers (Bläsing et al., 2012). In addition, empirical data show that dancers are more intrinsically motivated and significantly less competitive than basketball players (Csikszentmihalyi, 2000), have lower self-esteem and greater perfectionism than gymnasts (de Bruin, Bakker, & Oudejans, 2009), and have poorer postural balance than judo practitioners (Perrin, Deviterne, Hugel, & Perrot, 2002). Therefore, the identification and nurturing processes for talented people in these two domains are usefully differentiated.

Research sites. Singapore, a country unique in its sociocultural and economic composition, represents an important context for this investigation. A former British colony, Singapore has flourished from a tiny fishing village to become one of the world's wealthiest nations (based on per capital gross domestic product at US$54,776; Department of Statistics Singapore, 2014) since its independence in 1965. A young, multi-ethnic city-state, Singapore aspires to be "a leading art capital of Asia, a cultural capital of Asia," explained Lee Hsien Loong, the Prime Minister of Singapore (Government of Singapore, 2011, para. 13). Hence, it is not surprising that the government will increase the "annual program spending on the arts ... by more than 50% to reach S$365 million" (about US$296 million; Government of Singapore, 2012, para. 7) every year up to 2015 (Ministry of Finance, 2012, p. 50). Lee affirmed that:

> One important strategy is to give our talented and passionate Singaporeans every opportunity to realize their potential. And therefore we have a well-established, longstanding program to build up our arts education, and students now have a wide variety of institutions and art forms. (Government of Singapore, 2012, para. 8)

Such policies highlight the Singapore government's concerted efforts in developing artistic talents. This study, therefore, demonstrates the significant place of dance talent development within the Singaporean context—although the development of dance talents is still in its infancy in the international community of dance. To date, for instance, Ginny Gan (in the present study) is the only Singaporean ballerina who has had an international career (Royal New Zealand Ballet) and has danced lead roles such as Odette in *Swan Lake*.

Finland, on the other hand, has a longer history in developing dance talents (Makkonen, 2007; Suhonen, 1997) than does Singapore. The Finnish National Opera Ballet School (hereafter, Finnish Ballet School) is the only school in Finland that offered systematic training for ballet dancers since 1922 (Finnish Ballet School, 2014; Nieminen, 1999). The Theatre Academy Helsinki, offering both B.A. and M.A. degrees for training dancers and choreographers in contemporary dance, was established in 1983 (Nieminen, 1999). Admittedly, Finland, as with Singapore, is not widely known as one of the 'dance capitals' in the world. Yet, it is exactly under these conditions that a cross-cultural study of this kind is necessary to understand better the issues that talented students "face on a global basis [as] mediated by the social interaction norms in a culture" (VanTassel-Baska, 2013, p. 8), not unlike the studies conducted in Finland and the Netherlands with pre-professional students.

With regard to the adult dancers mentioned earlier, while the characteristics do provide some explanation of enablers to their success, considering the sociocultural contexts in which dance talents develop also can be useful. The literature so far has been about talented dancers in Europe, the U.S., Mexico, and Russia, and the studies thus represent a Western orientation. Also, the literature does not differentiate between dancers from different ethnic backgrounds, resulting in "a type of color-blindness" whereby gifted education researchers view ethnicity as "trivial or not worth studying" (Ford, Moore, Whiting, & Grantham, 2008, p. 84). Conversely, the merits of cross-cultural research—described as "the comparative understanding of constructs [such as] motivation and self-concept"—include validating the usefulness of many U.S. talent models and developing programs in another culture (VanTassel-Baska, 2013, p. 7). This cross-cultural research allowed me "to search for universals" (Weisner, 2010, p. 501) while making sense of the contextual variables prevalent or absent across cultures (Ember & Ember, 2001). Thus, to address the culturally uneven literature, a cross-cultural talent development study of this kind was warranted. After all, "the very concept of talent is meaningless except in a context of cultural forms and recognition" (Csikszentmihalyi, Rathunde, & Whalen, 1993, p. 25). While the Merriam-Webster dictionary (2014) provides a generic definition of culture as "a particular society that has its own beliefs, ways of life, [and] art", I follow Campbell and Koutsoulis' (2004) description—"the level of cultural experiences that go into establishing an individual's [dance] and social identities" (p. 18).

Cultural ethos. Before turning to the cultural ethos, consideration of some issues pertaining to the curricula and educational systems in Finland and Singapore will help to demarcate the boundaries of this study. Dance, unlike music and art, is not a compulsory subject in the primary and secondary school curricula in Finland (Finnish National Board of Education [FNBE], 2004; Vitikka, Krokfors, & Hurmerinta, 2012) and Singapore (Leung & Fry, 2013; Ministry of Education Singapore [MOE], 2014h). Research initiatives about why dance should be included in the school curricular in Finland (e.g., Anttila, 2013) and Singapore (Chua, 2003) have been discussed elsewhere and are not of interest to this study. While dance is offered as an after-school activity or embedded in the physical education syllabus

in both countries (Ministry of Education & Culture, 2014b; MOE, 2014a), these populations are not of concern in this study. Although this study examines talent development in dance, dance is not a domain of concern in the Gifted Education Program in Singapore (MOE, 2014f; Neihart & Teo, 2013).

I now describe the cultural beliefs undergirding the educational systems and gifted programs in Finland and Singapore which are pertinent to contextualize this cross-cultural study. An inordinate emphasis on examinations and academic achievement permeates the educational system in Singapore. In a fiercely competitive and resource-scarce Singapore, it is not surprising that national and public anxieties to excel academically exists (Lee, 2010). Singaporean parents' high expectations of their children to perform well in high-stakes testing is manifested in a cultural phenomenon or trait known as "kiasuism." Even a website, aptly named *KiasuParents*, was created "for parents, by parents" to share parenting and educational tips (Covocal Pte Ltd, 2014, para. 1). One such "tip" was to rank Singapore primary schools (grades 1–6) according to their "academic excellence" or "quality" so that parents can discern which schools to send their children to (Covocal Pte Ltd, 2009, para. 1). *Kiasu* is officially listed in the Oxford Dictionaries (2014): A *kiasu* person is "very anxious, not to miss an opportunity, [or] grasping." As Ellis (2014) observed, "Being *kiasu* encompasses winning at all costs, an unwillingness to lose out in any aspect of life, whether in education, career, or parenting" (p. 240). One Singaporean teacher in Ellis' study commented about such *kiasu* parents:

> The Chinese parents, in Singapore, tend to be kiasu, compared to [other parents] … who tend to be a little bit more laid back. I think even when I am handling students, in my school, and I work with parents, Chinese parents tend to be more involved, more concerned, about how their children are doing in school. (p. 242)

With regard to their gifted education program, Singapore is one of the few countries that "openly declared themselves [to be] merit-based" (Mandelman, Tan, Aljughaiman, & Grigorenko, 2010, p. 289) and extensive research has been conducted about the pros and cons of such meritocratic education system and governance in Singapore (e.g., Tan, 2008). Initiated by the MOE in Singapore in 1984 (MOE, 2014c), the Gifted Education Program aims to nurture "intellectually gifted [students] to prepare them for responsible leadership and service to country and society" (i.e., meritocracy; MOE, 2014f, para. 1–2). Given its top-down policy-driven structure in its educational system (Salleh, 2006), Singapore schools hold annual nation-wide screening and selection tests at the end of primary 3 (or grade 3) for the Gifted Education Program (MOE, 2014d). Catering to the top 1% of the intellectually gifted students, this program is offered in nine primary schools and seven post-primary schools (i.e., four-year 'A' level or six-year International Baccalaureate Diploma Program; MOE, 2014e).

Besides the academically gifted students, the "musically and artistically gifted" students (MOE, 2014g, para. 2) who are "academically able" (MOE, 2014b, para. 1) can enroll in select secondary schools (grades 7–10) that offer the Art or Music Elective Program. Again, these merit-based art and music programs aim "to

develop individuals who would be able to provide leadership favorable to the cultivation of the arts in Singapore" (MOE, 2014b, para. 1).

With regard to nurturing talented adolescent athletes, the Singapore Sports School, "through world-class youth sports development and academic rigor" (Singapore Sports School, 2014b, para. 3) is the only school in Singapore that caters to the needs of these students. Established in 2004, the Singapore Sports School began to offer the International Baccalaureate Diploma Program to select students in 2014 (Singapore Sports School, 2014a, para. 13). The overwhelming emphasis in academic achievement is also seen in the identification and training of talented arts (including dance) students at the School of the Arts Singapore that offers academically challenging International Baccalaureate programs (Singapore Arts School Ltd., 2015).

On the other hand, in Finland, based on the ethos of "all people must have equal access to high-quality education and training [and that] the same opportunities to education should be available to all citizens irrespective of their ethnic origin, age, wealth, or where they live" (i.e., egalitarianism; Ministry of Education & Culture, 2014a, para. 1), dance abilities, not academic abilities, determine the identification and training of talented dance students. (Hence, the School of the Arts Singapore is not considered for this study. The reasons for the selection of dance research sites will be elaborated in the Methodology section).

National policies in gifted programs in Finland are non-existent (Ministry of Education & Culture, 2014a; Tirri, 1997; Tirri & Kuusisto, 2013). As Tirri and Kuusisto observed, the "Finnish legislation does not explicitly mention gifted individuals" (p. 5), it is unclear how Finnish schools define, identify, and nurture these gifted individuals. Fortunately, research efforts about giftedness in Finland have been fervent (see Tirri & Kuusisto, 2013, for a discussion). Educational and pedagogical provisions for students with learning difficulties, however, are explicit in the Basic Education Act in Finland (FNBE, 2011, sections 16–17). Such support is echoed by the Finnish Minister of Education, Krista Kiuru, who attributed the success of Finland's educational system on equity rather than high academic achievement (Gross-Loh, 2014). Kiuru noted, "Everyone is put in the same class, but we support struggling students *more* than others because those individuals need more help. This helps us to be able to make sure we can use [or] develop everyone's skills and potential" (Gross-Loh, 2014, para. 7; emphasis added).

With regard to Finland's "success," Finland has been basking in the international limelight for being one of the top three performers in the Program for International Student Assessment since 2001 (except 2012; OECD, 2013). In a *Time Magazine* article, Finland was even branded as the "new rock star of global education" (Levine, 2011, para. 3). One of the possible reasons for Finland's success, besides its highly qualified teachers and short lesson hours, among others (Reinikainen, 2012), is a cultural trait known as "sisu." As author of the award-winning book *Finnish Lessons* (Sahlberg, 2011) Sahlberg reasoned, "When the going gets tough in Finland, people get together and turn to each other. This is a small nation. There is a collective willingness to act in the national interest—to stick with the *sisu*" (Lynn, 2010, para. 23). While painting a psychological portrait of Finland in

a witty article titled “The land of sauna, sisu, and Sibelius”, Sinkkonen (2013) noted that *sisu* is “untranslatable, but it means approximately strength of will, determination, and perseverance” (p. 49).

2 Definitional issues

I clarify the definitions and concepts used in the gifted education and social support literature necessary to situate the data. Definitions are crucial, as McCracken (1988) opined with an example: "It is difficult to imagine a study of 'friendship' that does not inquire into how people define a 'friend,' how they experience a friendship, and how the assumptions that operate in every social situation to dictate how friends and non-friends act" (p. 10). Essentially, researchers should "keep [readers'] thinking clear by calling things by their right names" (Kirk & Miller, 1986, p. 24).

Scholars lack consensus in defining and conceptualizing giftedness and talent; up to 100 definitions abound (Hany, 1987) and two volumes of books have been published about them (Sternberg & Davidson, 1986, 2005). Likewise, in the field of dance research, definitions of what constitutes a dancer's talent vary widely. Most of these studies lack a theoretical definition of talent in dance with the result that the literature is confounded with a seemingly convenience sampling of dancers having varying ages, nationalities, and career achievements.

For the purpose of this study, *dance talent development* is the manifestation of high potential into high achievement in dance via a multiplicity of catalysts and processes extending over many years.

2.1 Defining and conceptualizing success

A notable exception in this literature is the study by Ureña (2004) who defined professional ballet dancers by applying expertise theory: "The reliable production of performance" (p. 14). Hence, she used objective indicators of the ballet dancer's rank within the company and the reputation (regional, national, or international) of the company. Difficult as it may be in "defining success of adult achievement" (Schoon, 2000, p. 217), I aim to overcome common methodological problems by extending Ureña's definitions for dance talent (i.e., the dancers' rank within the company and the reputation of company), and by including as indicators of success whether the dancer has performed lead roles and has won national or international awards.

Support for this concept of success is found in the research by Noble, Subotnik, and Arnold (1999) in which they asserted: "Giftedness in children is linked to potential, in adults, to achievement" (p. 146). American choreographer Eliot Feld added to the discussion about giftedness in children by highlighting the importance of memory, body proportions, flexibility, and the ability to concentrate as indicators of early potential (Subotnik, 2002). Interestingly, all the dancers in the present study defined *success* in relation to their goals. As Jamal, one of the Singaporean dancers, eloquently summarized:

> Success as a dancer depends upon one's own individual artistic and professional aspirations. So depending on the goals, it may vary to as low as just be-

ing accepted into a professional company or going to the furthest and being a star in the dance world.

With regard to adult achievement in the domains of science and literature, Koro-Ljundberg (2002) suggested that *success* for her sample of 26 professors in the Academy of Finland "could be a balanced scale" when they were "satisfied" with their effort and result (p. 211). Accomplished Finnish female scientists had "published enormous amounts of articles in refereed journals" (Tirri & Koro-Ljundberg, 2002, p. 154). Nokelainen, Tirri, Campbell, and Walberg (2007) measured *success* or academic productivity of 624 successful academic Olympians in the U.S., Germany, and Finland by reviewing the number of publications and software products the participants produced. Piirto (1998a) selected 80 successful contemporary creative writers who must have at least 12 points of accumulated credit from having published a poem (one point), a book of poetry or novel (12 points), or won an established literary award (four points).

For the purpose of this study, *success* is operationalized by the dancers' noteworthy career achievements and awards.

2.2 Defining exceptionally talented

With regard to exceptionally talented students, researchers find it particularly difficult to study these students because exceptional students are "by definition in a small minority" (Cumming, 2010, p. 67). *Exceptional*, according to the Oxford Thesaurus of English, means "unique," "unusual," or "rare" (Hanks, 2000). Carman (2013) rightfully cautions that "a consensus definition of giftedness is needed, so that researchers and practitioners who look to previous research for direction in their work will not read research and wonder if they are comparing apples and oranges" (p. 62). Likewise, in the context of dance, defining young dance talents in terms of their characteristics, behaviors, and achievements is paramount. For instance, the standards of achievement (e.g., winning dance competitions) or talent program (i.e., dance school) should be clearly stated. For the purpose of this study, *exceptionally talented* is operationalized by reference to students studying in the leading dance institutions in Finland and Singapore—Finnish Ballet School and Singapore Dance Theatre.

2.3 Conceptualizing social support

Conceptualizations and definitions of social support vary, depending on the theoretical models (e.g., stress-buffering model vs. main-effect model; see S. Cohen & Wills, 1985, for a review), dimensions (structural, functional, or perceptual; see Chronister, Johnson, & Berven, 2006, for a review), or disciplines (e.g., anthropology, architecture, or psychology; see S. Cohen & Syme, 1985, for a review). Disciplines, in a more recent review, are described as perspectives: sociological, communication, or psychological (see Vangelisti, 2009, for a review). Specifically,

Vangelisti described a psychological perspective as people's perceptions of the extent of "the type or amount of support they believe is available to them" (i.e., perceived support; p. 40).

Perceived support, in the literature of talent development, is one of the well-researched dimensions of social support, but the lack of distinction among the types of social support is not without problems. Dunn, Putallaz, Sheppard, and Lindstrom (1987) found perceived family support was related to gifted adolescents' successful adjustment to their new environment (i.e., a residential high school), while perceived support from peers as related to successful psychological adjustment was significantly higher for males than for females. Gifted male adolescents scored significantly higher ($p < .01$) in the People in My Life Inventory (parents, friends, classmates, and teachers sub-scales) than females in perceiving their friends to be supportive (VanTassel-Baska, Olszewski-Kubilius, & Kulieke, 1994). In Vialle, Heaven, and Ciarrochi's (2007) study, gifted adolescents in Australia, despite perceiving more support (i.e., quantity) and excelling academically over a two-year period, were less satisfied (i.e., quality) with their social support than their non-gifted peers. Using the Dancer Social Support Scale, Williams (2003) found that pre-professional male dancers (aged 12–18) perceived the most social support from their mother, while Risner (2014) found that pre-professional male dancers (aged 13–18) perceived the most social support from their best friend in dance (84%), favorite dance teacher (71%), and mother (69%).

While I am not questioning the merits of these studies, the conclusions yielded were based on assessing social support in a global way rather than specifying the types of support. It is unclear, then, which type of support is the most effective for achievement, adjustment, or well-being of the students, thus making interpretations difficult. Winemiller, Mitchell, Sutliff, and Cline (1993) urged researchers to "specifically identify, specify, and measure [the functional aspects of social support] rather than using the global term 'social support'" (p. 644). Malecki and Demaray (2003) echoed the call for researchers to "[break] down social support source and type" (p. 235).

While no universal definition of social support exists (S. Cohen & Syme, 1985), there is a general consensus among social support researchers that social support types can be categorized as emotional, informational, and instrumental (see Hogan, Linden, & Najarian, 2002, for a review). Table 1 illustrates examples of the social support types and their definitions. While the categories proved useful, the definition of emotional support varied in the literature. The problem of a clear definition is compounded by Semmer et al.'s (2008) study; they found 71.6% of instrumental support situations "also [carried] emotional meaning" (p. 247) wherein participants while describing objective support behaviors also attributed emotional meaning to the behaviors. This finding supported previous research (Barling, MacEwen, & Pratt, 1988; Tardy, 1994).

In an exemplary study, Csikszentmihalyi et al. (1993) articulated three types of support in the families of talented adolescents: integration, differentiation, and complex. Among the three types, they found that the "complex" family—described as providing both support and challenges to the talented adolescents—is optimal

for talent development. *Support* is conceptualized as parents providing a stable home environment (i.e., integration) whereby adolescents perceive support and consistency. *Challenges* are conceptualized as parents encouraging the adolescents to develop their individual identity (i.e., differentiation) by increasingly taking on more mature responsibilities, learning new and complex skills, and seeking challenges.

Table 1. Social support types

Authors	Emotional	Informational	Instrumental
Hogan, Linden, & Najarian (2002)	"verbal and nonverbal communication of caring and concern and is believed to reduce distress by restoring self-esteem and permitting the expression of feelings" (p. 382)	"provision of information used to guide or advise" (p. 382)	"provision of material goods (e.g., transportation, money, or physical assistance)" (p. 382)
Olszewski-Kubilius, Grant, & Seibert (1994)	"Social support is the emotional support, instrumental aid, material support, and guidance that the members or groups in the social network provide" (para. 8)		
VandenBos (2013)	"at the most basic level, emotional support that allows the individual to feel valued, accepted, and understood" (p. 408)	"informational assistance (e.g., advice or guidance)" (p. 408)	"may take the form of practical help with chores or money" (p. 408)
Winemiller, Mitchell, Sutliff, & Cline (1993)	"information that a person is esteemed and accepted, [and] such behaviors as affection, sympathy, encouragement, or approval were included" (p. 640)	"help in defining, understanding, and coping with problematic events and included education, advice, or referral to another source of support" " (p. 640)	"provision of financial aid, material resources, [and] tangible behaviors [such as] providing transportation" (p. 640)

Perceived parental support was evident in retrospective studies about artists (Piirto, 2007), eminent architects (MacKinnon, 1962), and world-class musicians (Sosniak, 1985) wherein parents encouraged independence and provided stimulating learning experiences during their childhood. Further, a Singaporean pre-tertiary dance student perceived a distant kind of parental support, giving the student "freedom to decide [and] space," while another dance student perceived a high level of support from her father who took leave from work to watch her perform (Garces-Bacsal, 2013b, p. 12). A British-Indian pre-vocational dance student perceived support from his father who valued the hard work involved despite not understanding what dance entails (Sanchez et al., 2013).

The study of Oreck et al. (2000) with economically disadvantaged elementary (aged 10–12), intermediate (aged 15), and high school to adult (aged 18–26) dance cohort in the U.S. revealed family support and sacrifices as attributes for their success. Emotional support from parents such as attending their children's performan-

ces, and instrumental support from parents and siblings such as taking the children to lessons fueled the dance cohort's talent developmental trajectories. Sacrifices made by parents included relocating homes and adjusting work schedules to accommodate their children's dance training.

Ruokonen (2005), in her study of 64 six to 8 year-old Finnish and Estonian academically gifted children (IQ 120–144) who also had potential in music, found that the parents provided instrumental support whereby the parents were "willing to give their time and support for their children's learning and free-time pursuits like sports and [the] arts" (e.g., dance; p. 52). The parents also provided emotional support whereby they "[praised] and [encouraged] their children" (Ruokonen, 2005, p. 55).

The benefits of emotional and informational support, rather than only technical knowledge, from dance teachers as influential in dancers' development during the second and third phases have been corroborated in studies. Pre-tertiary students attributed their development to inspiring teachers who gave affective support and encouragement, and immediate feedback (Garces-Bacsal et al., 2011). Conservatory students (n = 157) described two salient qualities of the current *daily* teacher as "took interest in [student] as a dancer" (68.8% of students chose this out of 22 items) and "geared toward future profession" (68.2%; van Rossum, 2004, p. 44).

As a form of emotional support, verbal persuasion or encouragement, usually from trusted sources such as a teacher, increases students' belief in their capabilities (Bandura, 1986). Empirical data showed that teachers' verbal persuasion led dancers become efficacious and committed in dancing, possibly during the second phase (i.e., 9–15 year old; Pickard & Bailey, 2009). This reality was reflected in Araújo et al.'s (2011) finding that "in the early stages, teachers were important … in recognizing [the dancers'] potential to excel, contributing to a developing sense of 'specialness' and self-confidence" (p. 52). While it is unclear at which *early stages* teachers were important to the dancers, I inferred from the data (i.e., one dancer was nine years old) that the authors might refer to the first phase.

With regard to informational support, the importance of tacit knowledge—described as "the knowledge one needs to succeed that is not explicitly taught, and that often is not even verbalized" (Sternberg & Horvath, 2002, p. 185)—was noted in the third phase of talent development of musicians (Subotnik & Jarvin, 2005). Tacit knowledge is also important during the Portuguese contemporary dancers' professional career where mentors and choreographers provided them with "professional socialization and career influence" (Araújo et al., 2009, p. 52).

For the purpose of this study, *social support* can be summarized as including significant individuals providing opportunities and resources to students that helped students transition across the phases of talent development.

3 Conceptual frameworks

The frameworks included in the current dissertation employs the talent-development mega-model (Subotnik, Olszewski-Kubilius, & Worrell, 2011; hereafter, mega-model; see Figure 1) in Acts I and II, and Bloom's (1985) model of talent development in Act III. A model—defined as "any conceptual analog that can be used for empirical research" (Mönks & Mason, 1993, p. 141)—"[aids my] understanding by providing simplified representation of complex phenomena" (Cohen & Ambrose, 1993, p. 341). The mega-model (Subotnik et al., 2011), despite any weaknesses according to other criteria (see Plucker, 2012), provides a useful framework for my investigation of factors that influence the talent pathways dancers take. Jung (2012), in her review of the mega-model, contended that one of its strengths is that Subotnik et al. "explicitly acknowledge the domain-specific nature of developmental trajectories" (p. 189). Fittingly, this is "a comprehensive model applicable across all domains of endeavor" (Worrell, Olszewski-Kubilius, & Subotnik, 2012, p. 224), including dance.

Second, unlike other models such as Gagné's differentiated model of giftedness and talent 2.0 (2008) and Piirto's pyramid model (1999, 2004) previously used in empirical research with adolescents in dance in Singapore (Garces-Bacsal et al., 2011) and the U.K. (Sanchez et al., 2013), the mega-model considers three stages of talent development and is suitable for analyzing the factors from a developmental, age-related perspective. The *start* involves the individual's potential or present high level of abilities, possibly during adolescence (e.g., conservatory students); the *peak* represents the individual's achievement during adulthood (e.g., professional dancers); and the *end* regards outstanding achievement or eminence (e.g., retiring or retired dancers who may turn to choreography or teaching). The transitions during the talent-development process occur when abilities developed into competencies, competencies into expertise, and expertise into eminence. While many scholars deliberated about "eminence" as the aspired outcome of gifted education in this model (see Plucker, 2012), I use the less debatable term *successful* in this study. Moreover, the term *eminent* is not used in this study because all the participants, except Jamal, are still dancing and there is no way to discern whether they have maximized their fullest potential.

Another advantage of this model, according to Jung (2012), is that Subotnik et al. (2011) "highlight the role of psychosocial variables in the promotion of outstanding achievement" (p. 189). Psychosocial factors include optimal motivation, developed psychological and social skills, opportunities taken, and productive mindsets. "Big-*M*" motivation is operationalized as "[having] compelling drives, rooted in early experiences and underlying overarching goals such as the desire for fame [or] fortune," while "little-*m*" motivation is "motivation involved in smaller achievement-related tasks and decisions" (Subotnik et al., 2011, p. 34; italics original), such as attending enrichment programs. Significant individuals such as teachers and mentors provide psychological and social support. The psychosocial skills include, but are not limited to, "willingness to take strategic risks, the ability to

cope with challenges and handle criticism, competitiveness, motivation, and task commitment" (Subotnik et al., 2011, p. 40). Developed social skills, such as collegiality, are useful for dancers in promoting their ideas to others. Opportunities taken refer to dancers' conscious decision to commit to learning opportunities. Productive mindsets, akin to Dweck's (2006) *mindset,* are described as the belief that individuals have about their changeable abilities, leading to "positive impacts [on] the way that they respond to challenge, reward, feedback, and setbacks" (Subotnik et al., 2011, p. 18). Put differently, productive-minded individuals value effort, embrace challenges, persist despite setbacks, and learn from setbacks and criticism.

External factors and chance, necessary for promoting success, include opportunities offered, financial resources, and cultural and social capital. Opportunities offered refer to optimal learning opportunities inside and outside of school such as enrichment programs and mentoring. A plethora of definitions and concepts exists for "cultural capital" (see Lamont & Lareau, 1988, for a review) and "social capital" (see Adler & Kwon, 2002, for a review), depending on theoretical perspectives. However, these complex constructs are not operationalized in the mega-model. Therefore, I relied on Bourdieu's (1977) cultural reproduction theory to better understand the concepts of cultural and social capital.

Bourdieu (1977) offers an influential explanation of the socioeconomic and cultural resources of privileged individuals and their families. Briefly, the more cultural capital the individuals have, the better they will do in school and in life: they are exposed to high-status culture ("habitus") from birth in their family context, and consequently, more likely to possess cultural capital. And, later, gatekeepers and mentors in the domain reward such individuals with higher cultural capital. Cultural capital or resources are seen as equivalent to economic resources ("economic capital") and social connections ("social capital"). For the conceptualization of cultural capital to be supported in the present study, dancers from higher socioeconomic class, for instance, should have greater cultural capital than dancers from lower socioeconomic class to explain its importance to their career achievements. Unfortunately, it is beyond the scope and interest of this study to investigate the correlations between measures of cultural and social capital and career success (e.g., to measure home possessions related to high-status culture as seen in the study by Yamamoto and Brinton, 2010). Hence, I infer that by cultural and social capital, Subotnik et al. (2011) refer to "personal and environmental advantages [which] include knowledgeable and supportive families, mentors, and access to outside-of-school talent-development programs" (p. 36).

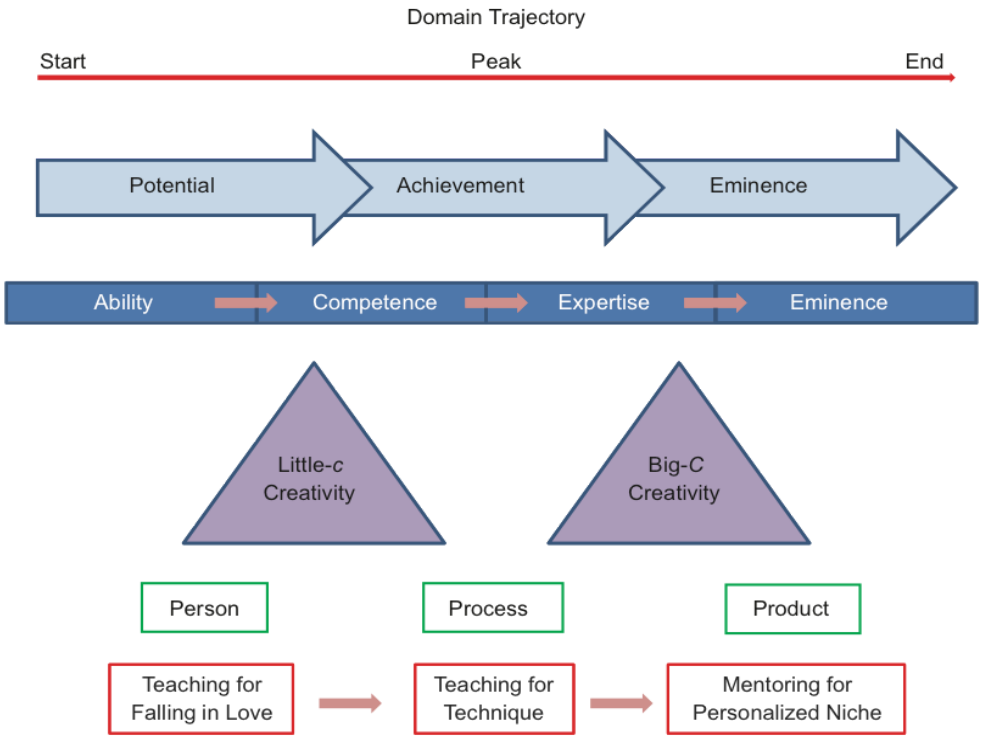
Lastly, this model differentiates the talent development between performers (i.e., dancers) and producers (i.e., choreographers) and, hence, provides a logical framework for investigating the trajectories prevalent for dancers. Winner (1996) makes a parallel delineation between experts (e.g., musicians) and creators (e.g., composers) in the context of creativity: "Expertise is not creativity. Experts perform at a very high level within a well-established domain but they do not alter the domain" (p. 281).

Using Bloom's (1985) seminal work, three phases of talent development were demarcated wherein teachers and parents played critical roles at each phase and,

hence, the model is especially relevant to frame the research segment which investigates the social support of family, teachers, and peers for dance students. During the first phase or 'early years' of learning, the 21 world-class pianists when they were aged 3–9 experienced playful initiation to the piano, usually by a parent. Lessons were mostly taught by "nice people but [who were] not very fine musicians or expert music teachers" (Sosniak, 1985, p. 31). During the second phase or 'middle years' of learning, the students, aged 10–13, increasingly invested time and effort perfecting technical skills with a master teacher (whom the parents search out). By the third phase or 'later years' of learning, the young adults honed their niche area with a mentor who provided tacit knowledge on how to succeed.

While the mega-model (Subotnik et al., 2011) is appropriate for framing the trajectories of dancers from approximately early adolescence to adulthood, Bloom's (1985) model prescribes a useful framework for analyzing the data from childhood to early adulthood.

Figure 1. Talent-development mega-model (Subotnik et al., 2011)



Enhancers:

Psychosocial factors:

- Optimal motivation (Both "little *m*" and "Big *M*")
- Opportunities taken
- Productive mindsets
- Developed psychological strength
- Developed social skills

External and chance factors:

- Opportunities offered inside and outside of school
- Financial resources and social and cultural capital

4 Act I: Research synthesis

The aim of this chapter is to share current research published about the specific abilities and processes that enhance talent development in dance. A second aim is to update and extend a review article written by Walker, Nordin-Bates, and Redding (2010) that was based on a smorgasbord of 87 articles (out of a total of 177 references) related to talent identification and development in dance, 54 in sports, seven in music, and seven in arts and sports. The articles included were not coded by research design, methods of analysis, combinations of variables, or sampling type (professional or amateur dancers), all of which can cause inconsistencies in interpretation. The review in question was not a synthesis of entirely scholarly articles: the sources of publication included a Master's thesis, lecture notes, an article that was under review, and non-peer-reviewed reports and conference presentations. In terms of time span, the earliest article was 1972 and the latest was 2010. Most importantly, it was written in the discourse of dance science, with findings and theories mostly drawn from the field of sports science and sports psychology (Dunn, 1990) and, hence, it does not entirely illuminate the characteristics and needs of nurturing dance talents.

To address these aims, this chapter constructs a research synthesis, a definition espoused by Cooper (2010):

> Research syntheses focus on empirical studies and seek to summarize past research by drawing overall conclusions from many separate investigations that address related or identical hypotheses. The research synthesist's goal is to present the state of knowledge concerning the relation(s) of interest and to highlight important issues that research has left unresolved. (p. 4)

I chose the term *research synthesis* over literature review in order to avoid confusion. As Cooper (2000) explained, a literature review is "the broadest term" (p. 4) used and it means, for example, "critically evaluating a single study that has been submitted for publication in a scientific journal" (p. 6). Similarly, Creswell (2005) offered a description about the limiting scope of literature review: "A written summary of articles, books, and other documents that describes the past and current state of knowledge about a topic" (p. 79). With Onwuegbuzie and Leech (2005), I can see why literature review "can culminate in inadequate and invalid syntheses of the extant literature" (para. 15).

Thirty-seven articles that met the inclusion criteria are tabulated in evidence tables 1–6 (in Appendix A) relating to dance talent development: (a) abilities and traits—physical fitness, memory, musicality, and personality, (b) creativity, (c) motivation, and (d) social support. They will be discussed from theoretical and methodological perspectives. First, the mega-model (Subotnik et al., 2011) frames the theoretical discussion with regard to the three developmental stages: start, peak, and end times. Second, in the methodological section, I will discuss the identification criteria of talented dancers, sampling type, and methods used in these articles.

Finally, I will make recommendations to improve research concerning the development of dance talent across the lifespan.

According to Subotnik et al. (2011), psychosocial variables, significant people, and serendipitous opportunities all interact with demonstrated potential and whether or not that potential eventually develops into actual talent. In the present synthesis, *potential* is operationalized by high level of abilities and traits that are manifested in multiple ways—flexibility, body proportions, physical memory (Subotnik, 2002), muscular strength, and muscular power (Walker et al., 2010). Cardiorespiratory fitness contributes little to performing dance activities (Koutedakis & Jamurtas, 2004) while expressive ability is subjective and lacks empirical data (Morris, 2008). Hence, unlike in the study of Walker et al. (2010) that investigated these variables, they will not be included in the present synthesis.

A variety of terms such as *professional, elite,* and *expert* dancers are used to describe the participants in the accepted studies. For the purpose of this synthesis, these terms will be used synonymously in reference to talented dancers.

4.1 Theoretical discussion

4.1.1 Abilities—Physical fitness

Physical fitness refers to "the individual's ability to meet the demands of a specific physical task" (Koutedakis, Stavropoulos-Kalinoglou, & Metsios, 2005, p. 29) in terms of joint mobility, body composition, and muscular strength and power. In this section, two questions concerning the physical abilities of talented dancers will be considered. First, what are the abilities typically displayed by talented dancers? Second, which of these abilities are innate or trainable?

The ability to perform with optimum levels of flexibility or range of motion (ROM) denotes those who can go on to become professional dancers. A flexible dancer is commonly able to move a joint (e.g., hip, spine, and ankle) through its entire ROM with ease (Deighan, 2005). Professional and pre-professional dancers are found to exhibit greater than normal ROM, known as hypermobility, than non-dancers (McCormack, Briggs, Hakim, & Grahame, 2004). Similarly, hip external rotation flexibility ('turnout' in the five positions of the feet in ballet) is prevalent in pre-professional students (Hamilton et al., 2006; Kadel, Donaldson-Fletcher, Gerberg, & Micheli, 2005; Khan et al., 2000). These three studies measured the active total turnout (landing from jumping) that included hip, knee, lower leg, and foot-ankle complex, albeit using different methods.

Findings concerning the hereditability or trainability of flexibly talented dancers are variable, depending on what instruments or measuring methods are involved. Among the three studies mentioned earlier, the highest active total turnout was a bilateral mean measurement of 174.9° ± 4.65° for students at an average age of 10 at the Boston Ballet School (Kadel et al., 2005). Many at that young age may not have prior ballet training, suggesting that their flexibility might be more likely to be hereditary than the result of ballet training. Khan et al. (2000) examined if hip and ankle ROM can increase over 12 months for the full-time 16–18 year-old ballet

students at the Australian Ballet School. This cohort only improved their right hip external rotation by 4% while the ankle ROM remains unchanged. This suggests that training might have limited success in increasing natural hip and ankle ROM. With regards to ankle ROM, it is critical for female dancers to achieve a minimum of 90° plantarflexion of the foot and ankle complex or instep flexibility in order to dance successfully on pointe (Shah, 2009).

To the contrary, however, the authors claimed that training of pre-vocational participants at the United Kingdom Centers for Advanced Training (CAT) is more influential than age in terms of joint ROM due to the lack of differences in the flexibility data reported in their study (Walker, Nordin-Bates, & Redding, 2011). Correlating training to joint ROM proved difficult because it was not made clear whether the adolescents studied only one primary style (contemporary dance) or between two and four styles (ballet, creative, and hip hop). Furthermore, the authors took a functional measurement of the active hip external rotation from the hips and lower leg that is not a predictor of total turnout (TTO). According to Champion and Chatfield (2008), functional TO refers to the position assumed by the dancer while an ideal TTO measurement should include all measurements of joint motions from hip, knee, lower leg, and the foot-ankle complex. Furthermore, the second test measured the students' hamstring flexibility in terms of passive and active straight leg raise (SLR) in a supine position. A protractor was used to measure both legs in degrees at the hip joint. Active SLR ranged from 89.01° ± 9.10° for early adolescents to 108.88° ± 11.75° for late adolescents. Whether the flexibility data can be generalized for this subgroup remains unknown because no control groups were used for comparison (see, e.g. Ziegler & Raul, 2000, for a discussion about control groups).

Optimal muscular strength is the other core ability that facilitates dancers in performing complex and seemingly effortless movements. Pre-professional female dance students exhibited greater strength in the inner range of hip external rotation than controls (Gupta et al., 2004). Of interest is that the students displayed significantly greater strength than the controls in the right hip external rotator than in the left, possibly showing their preference of the right leg during training.

Muscular strength, endurance of the hip abductors, and adequate ankle strength are safe readiness indicators for female ballet students to begin training on pointe (Richardson, Liederbach, & Sandow, 2010). Pre-professional students who were more than 12 years old and who had the most years of training were identified by two dance teacher-raters as being ready for pointe training (Richardson et al., 2010). Thus, training and physical maturation are essential to enhance muscular strength. The exact number of years of training was not reported but it is inferred from the data to be more than seven years. The teacher-raters who were blinded to the test outcomes, used their personal perception and a 4-point Likert-type scale, where 0 = poor and 4 = excellent, to rate the participants for pointe-readiness. Nine tests were conducted to measure the students' and the controls' abdominal and thigh muscular control, leg muscle strength, ankle joint ROM, balance, and turning ability. Unfortunately, the data were not reported.

Vertical height jump is a method of measuring muscular power in dancers (Twitchett, Koutedakis, & Wyon, 2009). Walker et al. (2011) suggested that age-effects on muscular power were evident in late adolescents who exhibited higher vertical jump height than the mid- and early adolescents. Again, whether the data can be generalized for this subgroup at CAT remains unknown because no control groups were used for comparison.

Low body weight, lean body mass, and low body fats constitute the ideal body composition of a ballet dancer. Despite literature that correlates unhealthy body composition with eating disorders (e.g., Doyle-Lucas & Davy, 2011), it is essential for dancers to maintain lean body mass for optimal performance. After all, strength production is related to the amount of muscles able to generate force (Gupta et al., 2004).

Empirical data reveal that female ballet dancers are slimmer than controls due to the artistic and physical demands of the profession. The body fat percentages were significantly lower at $p \leq 0.01$ in professional female ballet dancers (Doyle-Lucas, Akers, & Davy, 2010) and at $p \leq 0.0001$ in dancer-children (Kadel et al., 2005) than their respective age-matched controls. Body fat percentages for female professional ballet dancers fell from $12.8 \pm 2.7\%$ to $11.5 \pm 2.1\%$ over the course of a performance season, possibly due to increased workload and a lack of dietary supplements (Micheli, Casella, Faigenbaum, Southwick, & Ho, 2005). Interestingly, female soloists were characterized as having the lowest proportion of body fat in their total body mass and increased muscular strength in comparison to corps de ballet dancers (Miŝigoj-Duraković et al., 2001), possibly indicating that soloists have heavier workload than corps de ballet dancers.

The body mass index or BMI of modern dancers is commonly higher than that of ballet dancers. Female dancers at the Croatian National Ballet Company and the Croatian Folk Dance Ensemble had normal BMI of 19.52 and 22.65 respectively (Oreb et al., 2006), whereas BMI for professional modern female dancers in the United States was 20.6 ± 1.7 (Weiss et al., 2008). Even the 127 fifteen to eighteen year-old female contestants at the *Prix de Lausanne,* an international ballet competition, had just slightly less than normal BMI for their age: 17.8 ± 1.3 (Burckhardt, Wynn, Krieg, Bagutti, & Faouzi, 2011). However, caution needs to be taken when considering BMI in dancers. Several studies have shown discrepancies between BMI and body fat because BMI does not differentiate between fat, muscle, and bone mass (Stokić, Srdić, & Barak, 2005).

4.1.2 Abilities—Memory

The core ability that separates professional dancers from non-dancers is their exceptional *physical* or *muscle* memory—the ability to encode and recall dance movements with sensorimotor, kinesthetic, visual, and/or verbal memory codes. Professional dancers displayed a long-term memory profoundly more advanced than that of advanced amateurs or beginners. Both were asked to recall *pirouette en dehors* when spatial directions were used as stimuli, but only the professional dancers succeeded. They adopted a functional movement structure that consisted of

movements commonly performed in their domain and that was based on spatial cues (Bläsing & Schack, 2012). Similarly, professional dancers and advanced amateurs recalled the movements by performing or marking with their hands, which showed that their mental representations in their long-term memory were different than beginners and novices (Bläsing, Tenenbaum, & Schack, 2009).

In studies that used functional Magnetic Resonance Imaging (fMRI), professional dancers also had episodic memory—the act of remembering specific experienced events (Tulving, 2002)—for dance movements. Dancers' observation of familiar rather than unfamiliar actions accounted for greater neural activation, suggesting the use of motor and visual memory codes (Calvo-Merino, Glaser, Grèzes, Passingham, & Haggard, 2005; Calvo-Merino, Grèzes, Glaser, Passingham, & Haggard, 2006). In the latter case, episodic memory for dance material is evident when areas of the brain involved in action observation and production—cingulate, retrosplenial, and parahippocampal areas of the cortex—were activated. In another study, expert ballet dancers showed a superior visual discrimination than controls when they viewed pairs of upright and inverted point light and common dance movements (Calvo-Merino, Ehrenberg, Leung, & Haggard, 2010). This evidence again suggests the use of motor and visual memory codes.

4.1.3 Abilities—Musicality

The ability to dance with sensitivity to music as a whole and to synchronize with the meter and rhythms is essential to the success of ballet dancers. Côté-Laurence (2000) highlighted the difference between musicality and rhythm. Musicality includes all four elements of music—rhythm, melody, harmony, and tone color—whereas rhythm pertains to the timing of sounds and movements. In Côté-Laurence's study at a leading Canadian ballet school, the teachers addressed one of the two audition criteria being "the ability to connect movement to music" (p. 181). According to these teachers, such students have the ability to respond naturally to an internal or external stimulus with their bodies, to accentuate the dynamics and timing of movement, and have a general sensitivity to music. In fact, one teacher stressed that "an unmusical student will not go to the top" (Côté-Laurence, 2000, p. 181).

4.1.4 Traits—Personality

Accepted studies showed that personality is related to talent development. Araújo et al. (2009) interviewed two Portuguese contemporary dancers and described their personality traits as being curious, open to new experiences, adaptable, passionate, and having perseverance as being critical factors in nurturing and sustaining their motivation. Fink and Woschnjak (2011) measured the personality traits of the contemporary dancers in Austria, based on the Big Five model of personality, and discovered that they scored higher on openness to experience and psychoticism (without being outright psychotic) and scored lower on conscientiousness than jazz/musical and ballet dancers. This finding partly concurs with the seminal work

by Feist (1998) about artists who also scored high on openness to experience. The study by Fink and Woschnjak (2011) further establishes an association between personality traits and creativity and this will be discussed in the next section about creativity. In all, the personality approach for determining highly creative, eminent people is not without its critics because research so far has yielded weak and inconsistent data (see Sternberg, Jarvin, & Grigorenko, 2011, for a discussion). Thus, personality is a complex and unreliable factor for predicting achievement for dance talents.

In sum, there is a lack of scientific evidence to infer that the abilities and traits typically displayed by talented dancers are hereditary, or are the results of training or an interaction of both. In fact, no research has been conducted that establishes an association between specific dance abilities and achievement. Recommendations for further research in this area will be made in the final section of Act I.

4.1.5 Creativity

Creativity is another variable that influences talent development, but it remains unclear whether "creativity is a predictor of giftedness, part of the outcome that allows us to identify giftedness, or both" (Subotnik et al., 2011, p. 21). Despite its elusive construction, scholars generally concede creativity as the ability to create works that are novel, useful, and appropriate (Sternberg, Lubart, Kaufman, & Pretz, 2005). According to the mega-model (Subotnik et al., 2011), little-c creativity influences talent development at the start and peak stages. This is initially manifested as 'everyday' creativity, such as finding different ways to solve a problem, independent thinking, or creating projects and products that are original or unusual when compared to those of their peers. At the end stage, big-C creativity is crucial for eminence and is exhibited by people who create groundbreaking works or transform the domain. This model also takes into account three transitions: from "person" (developing a creative approach and attitude) to "process" (cultivating skills and mindsets) to "product" (creating intellectual, artistic, or useful products or performances). Here, the studies reviewed explore creativity in terms of the characteristics of dancers ("person"), and creative processes and pedagogic strategies ("process") designed to understand and promote creativity.

Pre-vocational dancers and faculty at CAT revealed that the characteristics influencing creative behaviors were traits (such as openness, confidence, courage, flexibility, and resilience), and inspiration and motivation (Watson, Nordin-Bates, & Chappell, 2012).

Psychometric tests and neuroimaging techniques were used to assess the cognitive processes underpinning creativity in professional dancers. First, Fink and Woschnjak (2011), using various psychometric creativity tests such as the Torrance Tests of Creative Thinking (TTCT; Torrance, 1966), found that modern/contemporary dancers displayed relatively high levels of verbal and figural creativity, followed by jazz/musical, and then by ballet dancers. Findings showed a strong correlation with personality but not with motivation. However, many researchers dismissed such tests—determining the ability to generate multiple re-

sponses to an open-ended probe (also known as divergent thinking; Guilford, 1967)—as "trivial" (Sternberg et al., 2011, p. 89). In particular, Chase (1985) criticized earlier editions of the TTCT for its lack of perceived reliability. Indeed, despite the reliability of the TTCT that involves inter-rater consistency and test-retest consistency (Zeng, Proctor, & Salvendy, 2011), they were not mentioned in the study by Fink and Woschnjak (2011).

Second, electroencephalography or EEG, a noninvasive measure of electrical brain activity (Dietrich & Kanso, 2010), was used to study brain mechanisms underlying dancers' creative thinking while engaging in three experimental tasks (Fink, Graif, & Neubauer, 2009). Results showed that professional dancers exhibited stronger alpha synchronization in the posterior parietal brain regions than the control group during the Alternative Uses Task (again, testing for divergent thinking). When asked to imagine improvising a dance, professional dancers exhibited more right-hemisphere alpha synchronization than the control group. No significant differences were observed between the professional and non-dancers during the mental improvisation of a waltz dance. Despite the authors claiming that their findings corroborate other evidence (i.e., higher originality is associated with more alpha; Fink et al., 2009), EEG creativity research, using the divergent thinking paradigm, has yet to yield consistent or conclusive results (Arden, Chavez, Grazioplene, & Jung, 2010; Dietrich & Kanso, 2010). One of the possible reasons is that "creative cognition and alpha synchronization may be mediated by giftedness, personality, and sex" (Arden et al., 2010, p. 6).

Another study sought to understand the creative experiences of pre-professional students via the role of *feel* (Lussier-Ley & Durand-Bush, 2009). The conceptions of creativity that informed this study were that creativity is a "process" (e.g., Freeman, 2006), a "social experience" (e.g., Csikszentmihalyi, 1999), "systemic in nature" (e.g., Robinson, 2001), and "contingent on people's values and meaning" (e.g., Robinson, 2001). It is unclear how the creativity paradigm serves to describe the dancers' creative experiences because the authors primarily used the Resonance Performance Model (RPM) as a conceptual framework. RPM, built within the framework of positive psychology, helps people focus on the positive feelings that they seek and experience and that hopefully will motivate them to continue participating in the activity (Newburg, Kimiecik, Durand-Bush, & Doell, 2002). The participants in this study revealed that having preparation strategies, "automaticity" (defined by the participants as "a conscious desire and ability to feel ... movement[s]"), and confronting their obstacles (such as negative self-talk and lack of support by people around them), and overcoming them helped to ignite their creative processes (Lussier-Ley & Durand-Bush, 2009, p. 209).

Regarding pedagogic strategies, the teaching styles of gatekeepers, the extension of the dance training experience, and communal and collaborative approaches helped to nurture students' creativity at CAT (Watson et al., 2012). In a similar vein in fostering creativity in their pre-professional students, former and current program leaders at four dance conservatoires in the United Kingdom, New Zealand, and Denmark revealed that their methods offered students the opportunity

to perform guest choreographers' works and to study choreography as a core or optional requirement (Rowe & Zeitner-Smith, 2011).

All in all, the studies reviewed lacked a theoretical model of creativity to frame their research. In Mumford's (2003) view, such a model is necessary to "account for different aspects of the creative process" (p. 109).

4.1.6 Motivation

Besides high level of abilities and creativity, also critical to outstanding achievement are optimal motivation, opportunities offered and taken, productive mindsets, well-developed psychological strength, and well-developed social skills (Subotnik et al., 2011). Especially important is motivation; it is at the core of psychosocial variables for eminence, according to many talent development researchers (e.g., Gagné, 2010). Highly motivated dancers will be *moved* to sustain effort, engage in training activities, and capitalize on their high abilities and opportunities in order to attain optimal achievements. However, the studies considered here only investigated specific motivation or motivation-related constructs and theories, such as self-concept, flow, deliberate practice, achievement goal theory, and self-determination theory.

First, *self-concept* refers to perceptions of a person's own abilities. These perceptions are often the result of past experiences and can affect future motivation; examples are self-esteem, perceived competence, and self-efficacy (Dai, Moon, & Feldhusen, 1998). With regards to self-concept, Pickard and Bailey (2009) discovered that 63 nine to fifteen year-old ballet students were confident in their competence to achieve their desired goal because they had *crystallizing experiences* via a significant place, event, or support from significant people. Coined by Walters and Gardner (1986), *crystallizing experiences* are vivid and memorable moments in which people become aware of their own capabilities and come to see themselves in a new or different way. Such experiences, as revealed by the young participants, impacted their talent development because these people showed greater self-efficacy, self-awareness, commitment, and a positive identity as a dancer.

Second, closely linked to the concept of intrinsic motivation, *flow* happens when people are profoundly immersed in an activity (Csikszentmihalyi et al., 1993). In Hefferon and Ollis' (2006) study, eight out of nine professional dancers in Scotland experienced flow via autotelic experiences: challenging tasks that met their advanced abilities, absorption in task, or loss of consciousness in time. Garces-Bacsal et al. (2011) described similar flow experiences in four pre-vocational dance students in Singapore. In both studies, the participants described that engaging in repetitive rehearsals, having clear goals, and receiving feedback from choreographers or teachers enhanced their confidence in their skills and facilitated flow, all which concurred with the literature about flow. Unfortunately, in both studies flow was found to be a strong predictor of prolonged commitment but not of achievement.

Third, within expertise theory, deliberate practice—a systematic and repetitive way of improving specific skills by using informative feedback (Ericsson, Krampe,

& Tesch-Römer, 1993)—is crucial for enhancing talent development in dance. Despite Ericsson et al.'s (1993) claim that deliberate practice is "not inherently enjoyable" (p. 368), dancers must be intrinsically motivated to engage in such sustained training. Notably, overall achievement in any domain requires at least 10,000 hours of deliberate practice (Ericsson et al., 1993; Simon & Chase, 1973). In the only accepted study that applied expertise theory as a theoretical framework, Ureña (2004) suggested that the superior level of expertise of the professional dancers in Russia is attributed to the total number of hours devoted to training: an estimated 8005 hours, as compared to those in the United States (4891 hours) and Mexico (4874 hours) by the time they were 17 years old. Correlating the estimated number of hours spent in training to levels of expertise proved difficult. First, the nature of the training is not described. Second, the level of expertise is not made clear; whether the dancers become principals (the highest rank), soloists, or corps de ballet dancers, and whether they are in a regional or international ballet company by age 18 is the source of great variance in discussions about expertise.

Deliberate practice is addressed in the qualitative study of Critien and Ollis (2006). One particular dancer highlighted that the most crucial factor for expertise in dance was deliberate practice that involved months of repetitive practice, feedback from choreographers and colleagues, self-judgments, and corrections of errors. However, the other 14 dancers believed that the impact of other aspects of the individual and environment on different levels of *self* are also crucial for expertise. The dancers needed to focus on their *individual self* by having curious inquiry, reflective-practice, warm-up, nutrition, self-awareness, and goal-setting; they needed to connect with the *relational self* in terms of significant people such as choreographers and colleagues; and the *collective self* needed to connect effectively with the environment where they performed, such as having efficient stage crew and stable income.

Fourth, within achievement goal theory, *motivational climate perceptions* or perceptions of a person's own achievement environment distinguishes between two different perspectives or goal orientations—task- or ego-involving—commonly used in research about sports and physical exercise (e.g., Duda & Nicholls, 1992). Two reviewed studies analyzed whether the task-involving climate predicted anxiety and self-esteem (Nordin-Bates, Quested, Walker, & Redding, 2012) or needs satisfaction (Quested & Duda, 2010). Nordin-Bates et al. (2012) investigated prevocational dance students approximately six months apart at CAT and at students' local dance studios (Time 1, $N = 327$; Time 2, $N = 264$). A key issue in this study is whether changes in a person's perceptions of motivational climate will affect anxiety and self-esteem. Using self-report instruments, students perceived the motivational climate at CAT to be more ego-involving at Time 2 (M = 2.26, $SD = 0.75$ on a 5-point scale) than at Time 1 (M = 1.96, $SD = 0.71$) due to "unequal recognition and punishment for mistakes," (p. 8) and this change predicted increases in anxiety. Overall, the data showed that changes in the students' motivational climate perceptions did not affect their self-esteem.

In another study, Quested and Duda (2010) surveyed 392 full-time vocational dance students in the U.K. with an extensive battery of instruments that probed a

range of variables, such as perceived autonomy support, perceptions of motivational climate, basic needs satisfaction, positive and negative affect, and emotional and physical exhaustion. Students' perceptions of the task-involving climate positively predicted all need-satisfaction within the basic needs theory—a mini-theory within the framework of self-determination theory that is developed by Ryan and Deci (2000). Students' perceptions of ego-involving motivational climates negatively corresponded with the needs for competence and relatedness (but not autonomy). Students who felt greater need satisfaction reported higher positive and lower negative affect. Although the data suggest the importance of creating a task-involving motivational climate for the well-being of dancers, they have yet to make a major contribution to the understanding of how these motivational processes lead to ultimate achievements.

Fifth, applying self-determination theory, Quested and Duda (2011) investigated 392 dance students' perceived autonomy support, self-esteem, social physique anxiety, body dissatisfaction, and motivation regulations for dance (also known as *identification*—dancers attend class because they know and have "identified" with the value of learning). Findings show that the students who perceived their dance teachers as supportive of student autonomy (mean = 4.43 *SD* = 1.17, min. = 1, max. = 7) reported higher levels of intrinsic motivation. A null relationship was reported for extrinsic regulations and students' reported self-esteem. Insignificant relationships were reported for intrinsic motivation, and students' social physique anxiety, body dissatisfaction, and reported level of self-esteem. The authors contended that more research is needed to understand the interrelationships between these variables.

4.1.7 Social support

Finally, a key element in talent development is support from a variety of sources—teachers, mentors, parents, and financial resources (Subotnik et al., 2011). Van Rossum (2001) investigated the contributions of 'significant others' to 129 pre-professional dance students in the Netherlands. During the *early years,* when the students were 10–15 years old, they were told for the first time that they were talented in dance, mostly by their dance teachers. Rather similarly, the 32 university dance students (control group) in the United States in Ureña's (2004) study were first told they were talented at a mean age of 11.41 (no standard deviation was reported), mostly by multiple sources, such as friends, family, other dancers, or a dance teacher. Conversely, professional dancers in the United States, Russia, and Mexico were first told they were talented at a mean age of 8.47 (no standard deviation was reported), more by their dance teachers (56%) than multiple other sources (42%; Ureña, 2004).

In terms of the characteristics of dance teachers, pre-professional dance students and their teachers revealed that the *ideal* teachers should have expertise in dance content and pedagogy (van Rossum, 2004). Interestingly, most students (75%) and teachers (90%) were indifferent to whether the ideal dance teachers should be male or female, even though most dance teachers are female. Both stu-

dents and teachers reported that the daily teachers were not predominantly authoritarian. Unfortunately, the results did not differentiate among teachers teaching a specific dance class (ballet, modern, jazz, or improvisation), all of which can result in inconsistent interpretations.

In terms of social support, university and professional dancers accounted for a similar number of people who cared about their well-being; more of the professional dancers than the controls reported that most of these supportive people were "involved in dance related activities" (Ureña, 2004, p. 71). Similarly, professional dancers described significant people in their lives (Araújo et al., 2009). In another study, a professional dancer likened her close relationship with her colleagues to "a sort of surrogate family" (Felix, 2004, p. 53). Sanchez et al. (2013) examined the environmental catalysts that pre-vocational dancers perceived to have contributed to or impeded their talent development in dance. Qualitative descriptions of ample social support from peers, teachers, administrators, and physiotherapists at CAT were consistent with literature about the importance of significant people. However, two of seven participants at CAT experienced little support from parents and teachers, and had negative home environments (Sanchez et al., 2013), thereby possibly impeding their talent development. Similarly, 34% of the university dancers reported "conflict in their family regarding their decision to dance" as compared to 7% of the professional dancers (Ureña, 2004, p. 52).

Besides such social and family support, financial support is found to be an important and practical catalyst for talent development (Subotnik et al., 2011). The authors stressed that partial or full financial support from the government allowed the participants to engage in dance activities at CAT (Sanchez et al., 2013). Without financial means, students can hardly travel to or gain access to dance lessons where training and feedback are crucial for improvement.

4.2 Methodological discussion

4.2.1 Identification criteria

The identification criteria employed by the researchers to define talented dancers will now be discussed. One study recruited their participants through peer nomination (Felix, 2004). Two studies used the same sampling data (Quested & Duda, 2010, 2011) while two studies did not report its source of recruitment. Of the 37 articles reviewed, 33 recruited their participants from national-level or regional-level dance schools or companies, vocational schools, specialized arts school, national arts council, and international ballet competition. Such identification measures are economical and practical as compared to locating rare, talented dancers from among the general population.

In two studies, the participants were identified as *talented* by researchers using definitions of talent given by the theories used in the studies. First, Garces-Bacsal et al. (2011) relied on Csikszentmihalyi's (1996) definition of talent that is "in a context of cultural forms and recognition" (p. 25), thereby justifying the selection of talented dance students from Singapore's only and highly competitive pre-

vocational specialized arts school. The authors stressed that these students were talented because they were selected from the top 20% of the cohort who auditioned to gain admittance into the school. Second, Ureña (2004) offered a clear definition of dance talents by applying expertise theory. Third, Araújo et al. (2009) used achievements such as "awards [and] participation on [*sic*] international/European dance companies/projects" (p. 141) to identify the talented dancers in their study, even though they did not rely on any theory for their identification.

Most studies used two criteria for identifying dancers as *professional*, *elite,* or *expert*: the number of years they spent in dancing and the number of hours in training. Unfortunately, the *number of years* varies dramatically between studies: from one year (Fink & Woschnjak, 2011) to 25 years' dance experience (Critien & Ollis, 2006; Hefferon & Ollis, 2006), making it very difficult to relate the results of studies to one another and to discern whether they are investigating the same subpopulations. The *number of hours* spent in training can hardly be used to prove the standards of proficiency of dancers. *Training* is also not explicitly stated; whether it refers to attending dance classes, rehearsals, or other physical training remains unknown.

Identifying a *professional* dancer was also done differently between studies. Bläsing et al. (2009) recruited their professional dancer-participants who were "active members of professional classical or modern dance companies" (p. 351). Hefferon and Ollis (2006) interviewed "elite, professional dancers" (p. 146), some of whom were freelance dancers, and that can cause inconsistencies in the interpretation of *flow*. Critien and Ollis (2006) also included two "independent freelance professional dancers" (p. 183) in their study that is highly puzzling for a study that examines *deliberate practice*. Admittedly, the precise definition of *professional* is somewhat incongruent in different contexts. Nonetheless, they are commonly determined by myriad factors, such as a dancer's training, career commitment, income, standard of work, and time allocation (Baumol, Jeffri, & Throsby, 2004).

4.2.2 Sampling types

In most studies, the researchers identified participants according to age group, gender, sample sizes, and nationalities. The age group is categorized into children (ages 9–12), adolescents (ages 13–17), and adults (18 years-old and above). Studies examining adults were most frequently observed (n = 19) while children (n = 1) were the least observed. Some studies had mixed categories, such as children and adolescents (n = 2), children, adolescents, and adults (n = 1), and adolescents and adults (n = 13).

Not unexpectedly, in 19 studies, the gender-ratio of the participants is skewed toward females. Nine studied only female participants, but one investigated pointe-readiness in students while two other investigated menstrual patterns, which are specific to females. Two studies had more male than female participants and the ratio was 8:7 and 6:1. Only two studies had equal number of male and female dancers and this was matched with the control groups. One study used only male par-

ticipants to observe capoeira and ballet movements. Three studies did not specify the gender of the participants.

The sample sizes for the studies had five groupings. Eight studies involved 1–10 participants; 10 studies involved 11–50 participants; nine studies had 51–100 participants; and four studies had 101–200 participants. Sample sizes of 201–400 accounted for five of the total studies. Such large sample sizes are adequate for detecting group differences and relationships (VanVoorhis & Morgan, 2007), albeit based on the assumption that the sampling is from normally distributed populations (Cumming, 2010). This is not to imply that large sample sizes are *ideal.* Rather, researchers should carefully consider the sample sizes in terms of its representation of the *dance talent* populations to discern whether they are appropriate to answer the research question, and aligning them with appropriate methods. After all, talented dancers are rare.

Most studies were conducted with participants in the U.K. (n = 10) and the U.S. (n = 6). Seven studies involved participants from numerous countries. Only one study involved participants from Asia, Singapore; the rest were from Europe (n = 4), Australia (n = 3), and Canada (n = 2). Three studies did not report the place of origin of the participants.

4.2.3 Methods

Seven studies used multiple methods to collect data. Quantitative methods will be discussed first, followed by qualitative ones. *Questionnaires* were commonly administered to elicit demographic information, training information, and psychological aspects of participants (n = 9). However, the problem with questionnaires is the low response rate—as seen in one study, only 29%. Hence, the sample is not representative of the subpopulation from which it is drawn and the results cannot be generalized beyond those who actually participated in the research. Commendably, in four studies that used several self-report instruments created for and used in sports domain, the authors justified the reliability of the scales by applying confirmatory factor analyses or Cronbach's alpha, the latter being the most common measure of reliability used in gifted education research (Warne, Lazo, Ramos, & Ritter, 2012).

Testing was done to measure brain activity of dancers using fMRI, physiological aspects, and personality (n = 16). *Ratings* were made by teachers to evaluate students' readiness to wear pointe shoes (n = 1). *Self-ratings* were made by participants to rate their own dietary intake prior to the competition (n = 1). *Experiments* were conducted to identify cause-and-effect relationship in memory retention in dancers (n = 3) and the association between brain activity patterns and creativity using EEG (n = 1).

Face-to-face or telephone *interviews* were conducted with participants in 11 studies. *Observation* was used only in one study to record teacher-participants' emphasis on rhythms while the teachers were teaching a ballet class. In one study, the *curricula* of four dance schools were used to examine their pedagogic goals and strategies for enhancing creativity in their students.

4.3 Recommendations

Clearly, the empirical studies in this synthesis thus far fail to identify the specific characteristics of talented dancers, the degree, or quality of natural abilities that need to be present, and how these high level abilities interact with a multitude of factors to impact talent development and eventual outstanding accomplishments. There is limited evidence to show that the talent trajectories for male and female or ballet and contemporary dancers are any different. A plethora of current literature that focuses on the detrimental effects of dancing does not illuminate much about *what* the strengths of dancers are and *how* they can be enhanced. In fact, empirical data suggest that retired Finnish dancers were "more content with their lives and experienced being healthier" than same-aged, Finnish, non-dancer controls (Rönkkö et al., 2007, p. 108), thereby refuting the claims by researchers (e.g., Anderson & Hanrahan, 2008) that dancers suffer poor physical and mental health from dancing. Therefore, contrary to that view and thereby adopting the aim of positive psychology, future research should steer from "preoccupation only with repairing the worst things in life to also building positive qualities" (Seligman & Csikszentmihalyi, 2000, p. 5) in order to determine good predictors of accomplishments in dance. A few recommendations are offered.

Researchers need to establish "baseline knowledge" (Subotnik et al., 2011, p. 35) for dance talent development by standardizing the definition of *dance talents* in terms of their characteristics, behaviors, and achievements. By doing so, generalizations for *dance talents* can be achieved and meta-analyses can be conducted to influence practice and policy (Subotnik & Thompson, 2010). First, future research should define dance talents as described by the theories used in talent development discourse. As such, "talent" needs to be operationalized. For example, are students profoundly talented at the top 1% of the same-aged cohort (Gagné, 2010)? Or do they have above-average but not necessarily superior ability and are in the top 20% (Renzulli, 2005)? Next, talents that are determined by expert opinion, standards of achievement (e.g., winning dance competitions, rank in company or repertoire performed), or talent program (i.e., dance school) should be clearly stated. Côté-Laurence (2000) gave a clear example:

> A leading Canadian ballet school … acknowledged to be one of the finest professional ballet academies in the world. Among its graduates are Canada's leading dancers, teachers, choreographers, and artistic directors (many of international fame; p. 179).

Researchers need to employ comparison groups to test the effects of intervention studies (Subotnik & Thompson, 2010). Numerous studies have claimed the unfairness of one-time audition and selection of dancers at a young age, but there is limited empirical evidence of positive outcomes for those who have *not* been selected and 'missed out' on the somewhat-elitist training. Future research will yield much greater understanding if the focus is not just on talented dance students, but on additional age-matched groups not in dance talent programs. It is also important to

consider within-group individual differences because they are often masked in between-group comparisons (Dai et al., 1998).

Unlike in music (Feldman, 1991) and visual art (e.g., Winner, 1997; Winner & Martino, 2000), no data exist about child prodigies in dance. Child prodigies "under 10 years of age who perform culturally relevant tasks at a level that is rare even among highly trained professional adults in their field" (Ruthsatz & Detterman, 2003, p. 510) are interesting case studies for understanding the degree and quality of their natural abilities and whether they defy the laws of accumulated practice time of 10,000 hours to reach expertise. Nine year-old Sophia Lucia is one such child prodigy who became a YouTube sensation for performing 55 pirouettes (Capezio Dance, 2014). Future recommendations for acceleration in dance programs could rely on students' aptitude, not chronological age (cf. Walker et al., 2011).

Expert teachers who are known to challenge talented dance students to meet their cognitive, affective, and psychosocial needs, and attain eminence could be interviewed to glean their pedagogical insights. Although in the music domain, a well-documented account of Dorothy DeLay, a formidable mentor to numerous world-class violinists, is a useful reference (Sand, 2005).

Finally, it is essential for future research to highlight the "benchmarks of excellence for the abilities, knowledge, and psychosocial skills" (Subotnik et al., 2011, p. 39) and to emphasize the educational applications or interventions of this subpopulation so that educators understand and know how to nurture them. By doing so, appropriate training opportunities can be prescribed at each stage of development, thus fully optimizing progression across stages (Subotnik et al., 2011). Examples of training include, but are not limited to, mentoring, summer programs, interning with a dance company, and competitions. Participation in dance competitions, such as the *Prix de Lausanne*, is a highly viable option for students to propel their chances of getting scholarships to a premier school and later employment. Besides, competitions are essential in training psychosocial skills (Subotnik et al., 2011).

As mentioned in the prologue, the ultimate aim of dance talent development is to enable dance students to maximize their potential and improve their chances of employment as performers. Hence, it seems relevant to hear from profoundly talented dancers about their success via retrospective research. To date, eminent dancers have written about their 'success stories' in biographies or autobiographies (e.g., Li, 2003) but not as data for scientific research. Difficult as it may be, longitudinal research is needed to trace the development of young talented dancers from childhood through their adolescence and eventual employment experiences. Future studies should explore how these profoundly talented dancers and students apply coping strategies while remaining highly motivated and confident about their abilities.

5 Methodology

5.1 Act I: Search process

Since there are "vast, sometimes seemingly disparate literature on research synthesis methods" (Suri & Clarke, 2009, p. 397), I relied on Cooper's (2010, p. 12) methods to guide the research synthesis process:

1. formulating the problem
2. searching the literature
3. gathering information from studies
4. evaluating the quality of studies
5. analyzing and integrating the outcomes of studies
6. interpreting the evidence
7. presenting the results

Guided by the research question, "What had been researched and published between 2000 and 2012 about dancers' talent development from childhood to adulthood?" I used a four-step systematic procedure to identify articles published about dance talent development. First, literature published in peer-reviewed journals and conference proceedings, and PhD dissertations were searched using electronic databases such as Academic Search Complete, ISI Web of Knowledge, PsycInfo, and ProQuest Dissertations and Theses, using the following descriptors: dance, dance talent, dance talent development, ballet, and contemporary dance. Second, a manual search of journals concerning gifted education and talent development was conducted from *Gifted Child Quarterly*, *High Ability Studies*, *Journal for the Education of the Gifted*, and *Roeper Review*. Similarly, a manual search of journals—*Research in Dance Education* and the *Journal of Dance Medicine and Science*—concerning dance education and dance science was conducted. Third, references of recent literature reviews about creativity (Press & Warburton, 2007), memory (Bläsing et al., 2012), flexibility (Champion & Chatfield, 2008; Deighan, 2005), fitness (Koutedakis & Jamurtas, 2004; Koutedakis et al., 2005; Twitchett et al., 2009; Wilmerding & Mermier, 2005) and talent identification and development of dancers (Walker et al., 2010) were examined for additional literature. Fourth, an ancestry search (Cooper, 2010) of references in the selected articles was conducted.

The inclusion criteria required that the studies were (a) empirical, (b) published between January 2000 and September 2012, which provided a focused sample of recent literature, (c) written in English, (d) describing factors that influence talent development, and (e) investigating talented ballet or modern/contemporary dancers. Choreographers or *producers* are excluded because their talent trajectories are different from those of dancers or *performers* (Subotnik et al., 2011). Studies conducted specifically with university, recreational, or amateur dancers were excluded because the identification and development of dance talent would be very

different for these populations, as evidenced by studies in this synthesis that included them as controls rather than as expert dancers (e.g. Ureña, 2004). Quantitative studies must involve at least 30 participants in order to maximize statistical power to detect effects (Light, Singer, & Willett, 1990) while fMRI studies must involve at least 12 participants (Desmond & Glover, 2002). Reasons for excluding any article are documented in RefWorks.

5.2 Acts II & III: Research design

A case study design that could be useful to "document domain-specific giftedness" (Onwuegbuzie, Collins, Leech, & Jiao, 2010, p. 125) is applied in Acts II and III. It provides a detailed, in-depth understanding of human behavior regarding a given *issue* that is illustrated by multiple cases (Creswell, 2007). Multiple cases of eight successful Finnish and Singaporean ballet and contemporary dancers are used to highlight the factors that contribute to their talent development (i.e., issue) in Act II. Different perspectives (Stake, 2005) were elicited from the student-participants, their teachers and family in order to answer the main research question (i.e., issue) in Act III: "How well are exceptionally talented Finnish and Singaporean dance students supported by significant individuals at different phases of the students' development?" Asking "How?" not "Why?" is pertinent because qualitative researchers "ask *how* human action and meaning are constituted by the ongoing flow of social and cultural life" (Maracek, 2003, p. 57; emphasis added).

Single case studies have their limitations: They are "less good at providing a panoramic view of a phenomenon and to identify similarities and patterns across contexts" (Willig, 2008, p. 159). To overcome this issue, multiple cases are deemed "especially appealing because they can purposively sample, and thereby make claims about a larger universe of people, settings, events, or processes" than can a single case (Miles & Huberman, 1984, p. 37). As Willig (2008) noted, case studies "can be designed to test an existing theory or they can constitute the starting point for the generation of a new theory" (p. 81), the deductive process of organizing themes around the theory by Subotnik et al. (2011) and Bloom (1985), and the inductive process of identifying new themes are applied during data analysis. Furthermore, Coleman, Guo, and Dabbs (2007) call for "more case studies" (p. 61) after reviewing the state of qualitative research published in American journals about gifted education.

5.2.1 Sample selection

Using purposeful sampling strategy (Merriam, 2002), I selected participants who fit the definition of *successful dancers*. The criteria are described in Table 2. By keeping in mind that "balance and variety are important" in a multiple-cases study, consideration is given to selecting dancers who form the "balance" and "variety" configuration (Stake, 1995, p. 6; see Table 3). Especially important, they must be born and raised in Finland or Singapore so that the sociocultural contexts in which they develop their talents during the start time are similar and comparable for cross-case

analysis (although Malaysian-born Jamal moved to Singapore at three years old and Thai-born Sam moved to Finland at five years old). Moreover, the dancers represented an effective cross section of ethnic backgrounds in Finland and Singapore (Caucasian, Thai, Chinese, and Malay) and geographical locations in Finland. Thus, these dancers (see Tables 4 & 5) can provide "different perspectives" (Creswell, 2007, p. 75) for the research questions. The primary goal is to "maximize what [I] can learn" from these cases (Stake, 1995, p. 4), not to generalize (Stake, 2005).

Table 2. Selection criteria (Act II)

Career achievements	Awards
1. Full-time dancer at a national or international, ballet or contemporary dance company, 2. Performed lead role(s), and/or 3. Highest ranking dancer in company	1. Finalist or winner at national or international level dance competition and/or 2. Recognition for dance talent by national or international organization

Table 3. "Balance" and "variety" configuration (Act II)

Configuration	Gender, dance genre	Finland (*n*)	Singapore (*n*)
"Balance" and "variety"	Male, ballet	1	1
	Female, ballet	1	1
	Male, contemporary dance	1	1
	Female, contemporary dance	1	1

Table 4. Profile of successful dancers in Finland (Act II)

Name (gender) year of birth	Formal dance training	Career achievements	Awards	
Ballet				
Jani Talo (M) 1977	Washington Ballet School Finnish Ballet School	1995–1999 Dancer, Washington Ballet 1999–2009 Dancer, Finnish National Ballet 2010–present Principal dancer, Finnish National Ballet	1998 Bartholin Prize (Denmark) 2000 Dance Flower Bud Award (Finland)	2007 Dance Flower Award (Finland)
Maria Baranova (F) 1992	Helsinki Dance Institute School of Hamburg Ballet	2009–2011 Corps de ballet dancer, Hamburg Ballet 2011–present Principal dancer, Finnish National Ballet	2007 1st Prize, Public Favorite Prize, & Nils Åke Häggbom Prize (junior division), Stora Daldansen 2nd Prize, Grasse International Ballet Competition 2008 3rd Prize (junior division), Premio Roma International Dance Competition Prix de Lausanne Selection for 15–16 year-old	2009 1st Prize (junior division) & Encouragement Prize for a talented Finnish dancer, Helsinki International Ballet Competition (HIBC) 2010 3rd Prize, Varna Competition 2011 1st Prize, International Competition for Erik Bruhn Prize 2012 2nd Prize (senior division), HIBC
Contemporary dance				
Sam Vaherlehto (M) 1986	Finnish Ballet School	2007–2010 Apprentice dancer, Finnish National Ballet (2011–2013 Freelance contemporary dancer) 2013–present Dancer, Phoenix Dance Theatre	2005 1st Prize (hip hop men solo), Street and Show Dance Finnish Championship 2007 2nd Prize (senior division), Stora Daldansen	2010 1st Prize, So You Think You Can Dance (Finland) 1st Prize (adult men solo), Performing Arts Finnish Championship 2011 European Youth of the Year
Sini Länsivuori-Engström (F) 1967	Finnish Ballet School	1985–2003 Dancer, Finnish National Ballet 2004–2011 Dancer, Tero Saarinen Company (TSC) (2011–present Freelance contemporary dancer, TSC)	2007 Finland Prize 2014 Medal of honor, Central Organization of Finnish Theatre Associations	

Table 5. Profile of successful dancers in Singapore (Act II)

Name (gender) year of birth	Formal dance training	Career achievements	Awards
Ballet			
Jamaludin bin Jalil or 'Jamal' (M) 1963	Tisch School of the Arts at New York University	1988–1994 Founding member & dancer, Singapore Dance Theatre 1996–7 season Dancer, Les Grands Ballets Canadiens de Montréal 1998–2003 Senior dancer, Singapore Dance Theatre	1992 Young Artist Award, National Arts Council of Singapore
Ginny Gan (F) 1987	New Zealand School of Dance (NZSD)	2007–2010 Dancer, Singapore Dance Theatre 2011–2014 Dancer, Royal New Zealand Ballet	2003 1st Prize (modern dance solo), Perth Theatrical Festival Dance Competition
Contemporary dance			
Zhuo Zihao (M) 1981	LASALLE College of the Arts (Singapore) Hong Kong Academy of Performing Arts	2000–2002 Apprentice dancer, Odyssey Dance Theatre (ODT) 2002–2004 Dancer, ODT 2008–present Founding member & dancer, T.H.E. Dance Company	2012 Young Artist Award, National Arts Council of Singapore
Christina Chan (F) 1988	NZSD The Boston Conservatory	2011–present Dancer, Frontier Danceland	2012 Best Dancer, Sprouts All-Stars Dance Competition (Singapore)

Of the 13 students who volunteered to participate in this study, I purposefully selected four Year 2 students (i.e., cases), using Creswell's (2007) recommendation to "not include more than 4 or 5 case studies in a single study" (p. 128), and to select "unusual cases [to] fully describe multiple perspectives about the cases" (p. 129). I chose Year 2 students because they would have sufficient experience in their dance programs to answer my research questions. First, I chose the unusual case of Emilia who has represented Finland in several youth ballet competitions in the Nordic region and whose two younger siblings are also studying at the Finnish Ballet School. Emilia's Singaporean counterpart is Feng, who has performed in Singapore Dance Theatre's productions. Next, I chose Antti and Wei, the male participants in the study. Given that the students at these national institutions are deemed exceptionally talented among the same-aged cohort, and that at the commencement of the study, they indicated that they hoped to become ballet dancers, they were able to answer the research questions. For the girls who were under-aged

at the time of data collection, their parents signed the permission forms on their behalf. The students nominated at least two significant individuals—parent, sibling, first-, second-, or third-phase teacher who have impacted their talent development—whom I later interviewed. Only Wei's father declined to be interviewed. While Jenny and Vesa are full-time ballet teachers, the rest are part-time ballet teachers who hold full-time jobs: Seiko is a principal dancer, Anja is a schoolteacher, and Kelly is an administrator. Anu is a contemporary dance teacher and performer. The parents' professions are sales/financial directors (n = 3), teachers (n = 2), a secretary, an engineer, and a nurse. All participants' names were changed to ensure confidentiality of their responses (see Table 6).

Table 6. Research participants (Act III)

Year 2 students (age)	Family (pseudonym)	First/second-phase teachers	Third-phase teachers	Sub-total
Finland				
Antti (21)	Older sister (Päivi)	Anja	Anu	4
Emilia (17)	Mother (Mrs. Aalto)	Not applicable	Vesa	3
Singapore				
Wei (22)	Father—Declined to be interviewed	Jenny	Not applicable	2
Feng (16)	Father (Mr. Tan)	Kelly	Seiko	4
			Total	13

5.2.2 Research site

The Finnish Ballet School is the only vocational school in Finland that prepares students for a professional career in classical ballet (Dance Info Finland, 2012; Löytönen, 2008). Since its establishment as a ballet academy in 1922 (Makkonen, 2007), its illustrious alumni include world-renowned dancers such as Jukka Aromaa (former principal dancer, New York City Ballet), Jorma Elo (former dancer, Netherlands Dans Theatre), and Minna Tervamäki (former *étoile* [star] dancer, Finnish National Ballet). Another way of discerning its status as a leading dance academy in Finland is its stringent admission criteria: No vocational student was admitted in 2010 because no candidate met the audition criteria (Hannele Niiranen, principal, personal communication, October 29, 2012).

Since there is no dance or ballet conservatory in Singapore, I had to modify the criteria to find a site comparable to the Finnish Ballet School. After all, in a multiple case study research such as this, "the cases need to be similar in some ways" (Stake, 2006, p. 1). The Singapore Dance Theatre's scholars program, according to the company website, seems to nurture talented dancers for a ballet or

contemporary dance career: "Created especially for student dancers between the ages 13–19, [the elite] program aims to develop and groom the next generation of professional Singaporean dancers" (Singapore Dance Theatre, 2011, para. 1). Similar to the Finnish Ballet School, enrolment at the Singapore Dance Theatre is by audition only and the scholars program is affiliated with the dance company. Therefore, it is with these considerations that I chose the Singapore Dance Theatre as the research site most comparable to the Finnish Ballet School. It is important to highlight that the scholars program is an after-school activity in which the students attend five lessons a week for about three hours per lesson (Singapore Dance Theatre, 2011, para. 8).

5.2.3 Procedure

In 2013, I contacted eight dancers who met the selection criteria; they consented to be interviewed. I used the dancers' real names with their permission. Following Yin (2009), I agree that this is "the most desirable option" (p. 181), allowing readers to elicit information about the dancers and, hence, making the study easier to interpret and analyze than using pseudonyms. After all, "pseudonyms and disguised locations are often recognized by insiders" (Christians, 2011, p. 66) and all the dancers in this study are well known in their respective communities.

Multiple data sources for this study—semi-structured interviews, documents, archival records, and audio-visual materials—were used as a form of triangulation for information about perspectives and for corroboration (Stake, 1995). Documents included published interviews and reviews written about the dancers, and their curriculum vitae. Archival records included dance companies' program books and press releases. Audio or video-recorded interviews were conducted with the dancers in the media (e.g., television and radio).

Each semi-structured interview lasted between one and two hours during which three main questions were posed (see Table 7). Overall, the interview guide was developed (a) based on the mega-model (Subotnik et al., 2011), (b) pilot tests conducted with four former full-time Singaporean and Finnish dancers who are not part of this study, and (c) was informed by my "insider perspective" (Coleman et al., 2007, p. 61) regarding talent development that I have experienced as a Singaporean practicing dancer-choreographer living in Finland. I conducted the interviews in English, either in person in Finland and Singapore, or via Skype videoconferencing (with Ginny in New Zealand). The dancers, except Ginny, responded to eight index cards, each listing an interview question; this process helped to "ensure that the same basic lines of inquiry are pursued with each [dancer] interviewed" (Patton, 2002, p. 343). For Ginny, I typed the eight questions via instant messages in Skype. I audio-recorded, transcribed verbatim, and reviewed the interviews to yield consistent and reliable data (Poland, 2003).

Table 7. Interview Guide (Act II)

Research questions	Interview questions
1. How do talented dancers perceive "success"?	1. How would you define "success" for a dancer?
2. How do successful dancers describe their talent development from childhood through adulthood?	2. How important have these hypothesized factors been to you in developing your talent from childhood through adulthood: a. Optimal motivation b. Opportunities given and taken c. Productive mindsets d. Developed psychological strength e. Developed social skills f. A high level of dancing skills?
	3. What other factor(s) have impacted your talent development from childhood through adulthood?

In Act III, data collection consisted of letters, interviews, observations, and document reviews (see Table 8). I developed the letter-writing guide through pilot-tests involving four adolescent dance students from both countries and gender who are not part of the present study; the results strongly indicated that open-ended questions aided the letter-writing process. The pilot follow-up interview allowed clarifications of the content of the letters.

First, in the present study, the students wrote a single letter to me by responding to two main questions—(a) How would you define an exceptionally talented dancer? (b) What factors impacted your dance talent development from childhood to adolescence (or adulthood)?—displayed on a one-page letter-writing guide. Following Rubin and Rubin (2004), I posed broad initial questions to "obtain the needed overview" (p. 159) of dance talent development and "not box the [students] into particular responses" (p. 157) about *who* have supported them in their development. Single letters are defined as "one or more letters written [and] without reciprocal exchanging of letters" (Rautio, 2009, p. 30) and, hence, single letters are not correspondence (Harris, 2002). One of the advantages of single letter-writing is its tangibility—written words are "stronger" and more permanent than spoken words (Albert, 1996, p. 9). Additionally, being the first step in data collection, this method is deemed more appropriate than interviews because (a) misunderstanding in communication between interviewer and participants will be diminished (Rautio, 2009) when both do not speak a common language, and as Patton (2002) noted, if the translator misinterprets questions and comments (in the case of the Finnish students); and (b) writing for reflection promotes "accuracy of description" (Harris, 2002, p. 15). The letter-writing guide also included several instructions, hoping to clarify the task and to promote consistency in the collection of data from two different cultures. The guide was written in both English and Finnish for the Finnish students. The writing duration took about an hour, allowing students to reflect upon their past and present dance experiences, and write about them.

Table 8. Data collection process (Act III)

Year I collected data	Participants	Methods	Data	Purpose
2012–2013	Students (n = 4)	Letter-writing	Transcribed letters	To clarify the students' perspectives about dance talent development
2013–2014	Students, parents, siblings, & teachers (n = 13)	Interview	Transcribed interviews	To elicit more depth and understanding about the social support for students from students and their family members and teachers. For example, "Could you elaborate how your teacher cared about you?"
2012–2014	Students & teachers	Observation 1 Dance classes 2 Performances	Field notes consisting of my reflections about students' and teachers' behaviors during lessons, and video recording of select dance classes	1 To examine the students' learning environments, and especially their interactions with teachers (and vice versa) 2 To obtain evidence of students' dance talents
2012–2014	Not applicable	Document review	A table classifying students' dance activities, timetable, and achievements	1 To understand the learning opportunities provided by the school and/or outside of school 2 To obtain evidence of students' dance achievements or development over time

Second, at the beginning of the individual interview, I gave the students a copy of their letter to read, hoping during the interview to clarify ambiguous points and facilitate discussion about topics or themes that arise in the texts (Forbat & Henderson, 2005; Lapadat, 2000). Both Finnish students opted to write and speak in English although they had the choice of writing in Finnish and of having a translator present during the interviews. Next, I interviewed the people they nominated as significant.

While this is not a longitudinal study per se, the observations, interviews (at least two; about 12-month interval), and subsequent emails and WhatsApp messenger exchanges that I had with the students over a two-year period "[allowed] for some sort of meaningful change to occur" (Little, Card, Preacher, & McConnel, 2009, p. 15) and to be recorded. Using the Internet to collect additional data was regarded a suitable method due to the geographical distances between the participants and researcher (Mann & Stewart, 2000).

As a form of triangulation of different sources "to capture and report multiple perspectives" and for evidence (Patton, 2002, p. 546), I conducted a document review that included websites, performance programs, a television program titled *Baletti on kiva* [Ballet is fun] that described the learning experiences of three students (who are not in my study) at the Finnish Ballet School (Kokko & Salmi, 2010), and an online blog by Emilia's dance classmate. Reviewing the websites (containing course description, mission statement, and timetable) of each institution gave me a better understanding of the institution's official vision, goals, and learning opportunities provided to the students. Performance programs were used to trace students' dance achievements or their development over time (e.g., in 2012, a student performed as a member of the corps de ballet, but in 2013, she performed a lead role in a ballet production). As Cohen, Manion, and Morrison (2011) wrote, "[document review] may show how situations have evolved over time" (p. 201). Guided by the main research question, the review of documents, similar to an audit trail, enabled me to discern the data from each document to other documents in the audit file and, hence, "decisions, accounts, and everyday practices [can be] documented and justified" (Coffey, 2014, p. 374).

5.2.4 Analysis

The research questions guided my analysis. First, I read all the data repeatedly in order to "get a sense of the whole" (Patton, 2002, p. 440). Second, using the megamodel (Subotnik et al., 2011) or Bloom's model (1985), and the social support literature that provided operational definitions for each category (Hsieh & Shannon, 2005), I developed a categorization matrix to aid deductive content analysis. This practice of using theoretical propositions is advantageous for a focused analysis at the outset of a study (Campbell & Koutsoulis, 2004; Miles, 1979; Yin, 2009). I coded the data for each dancer (Act II) and participant (Act III) according to the categories (see Tables 9 & 10).

Third, after multiple readings and interpretations of the raw data, elements that did not fit the categorization matrix were used to "create their own concepts" (Elo

& Kyngäs, 2008, p. 112) that might reinforce different explanations (Patton, 1999). Following the recommendations by Graneheim and Lundman (2004), I first extracted the text about the factors contributing to the dancers' development, or types and sources of social support for the students; the text was then divided into meaning units that were condensed; and the condensed meaning units were abstracted and coded. Tables 11 and 12 illustrate this inductive analysis process.

After comparing the similarities and differences among the codes, I sorted them into categories. Eventually, for Act II, I organized all the data into a list of nine clearly defined non-overlapping categories and collapsed them into three themes that answered the research questions. While the "Results" section of this study focuses on four dancers' stories, the "Discussion" section is the result of analysis on the entire data set for eight dancers. For Act III, owing to the nuances and complexities in conceptualizing social support, further analysis follows the work of Williams, Barclay, and Schmied (2004) who stipulate that researchers should "[define] each construct that emerged from the data explicitly and [exemplify] with quotes from the study participants" (p. 955) and "identify what is socially supportive in what circumstances" (p. 957).

Table 9. Coding the data to the categorization matrix—An example (Act II)

Theme: Developed psychosocial skills	
Category	Productive mindsets
Operational definition	The belief that individuals have about their changeable abilities, leading to "positive impacts [on] the way that they respond to challenge, reward, feedback, and setbacks" (Subotnik et al., 2011, p. 18). Put differently, productive-minded individuals value effort, embrace challenges, persist despite setbacks, and learn from setbacks and criticism.
Coding for Ginny	Believes that her abilities are changeable through prolonged effort ("If I don't try, if I don't practice, I will never improve.") Persists despite setbacks ("[I was] trying very hard to keep up with the rest or my classmates in the class and meeting up with the same standards. It was very upsetting most of the time ... But I decided to stay on and push myself harder to my limits.") Learns from setbacks by applying strategies to improve ("I visited the gym to improve my stamina [and] I learned to improve my dancing through other ways such as pilates.")

Table 10. Coding the data to the categorization matrix—An example (Act III)

Theme: Types of support	
Category	Instrumental support
Operational definition	"Provision of material goods [such as] transportation, money, or physical assistance" (Hogan, Linden, & Najarian, 2002, p. 382).
Coding for Emilia	During the first and second phase, mainly Emilia's mother took Emilia to ballet lessons ("You have to have your logistics, take them to places when they are smaller. [When] Emilia started her intensive dancing at the age of ten, [for] probably half a year that she wanted me [to accompany her]. Her father or I would also fetch her" said Mrs. Aalto) During the first two phases, Emilia's parents paid for dance lessons and dance gear ("Dad pays for the ballet school [i.e., lessons at the first ballet school] and equipment that I need" said Emilia and "my money goes to the children and their [dance interests]" said Mrs. Aalto) During the third phase (in Emilia's third year of studies), her parents paid for tuition and rental ("[My parents] are paying for tuition. And of course, the rental of the flat which is about a few hundred euro a month" said Emilia)

Table 11. Inductive content analysis—An example (Act II)

Meaning unit	**Condensed meaning unit**	**Code**	**(Tentative) Category**
"I did not take that [elementary-level ballet] exam because if I'd taken the exam, then I knew that I would have just gotten a Pass, which I didn't want. But I delayed and took the exam later so I could do it better"	Delayed taking a ballet exam, hoping to get better results than only a Pass	Motivated by a desire to get a good grade	Extrinsic motivation

Table 12. Inductive content analysis—An example (Act III)

Meaning unit	**Condensed meaning unit**	**Code**	**(Tentative) Category**
"We share with each other advice and suggestions [such as] a new stretching exercise" (*Emilia*)	Supported by friends at the ballet school because they share advice and suggestions with one another to improve dancing	Share advice and suggestions	Sharing

5.2.5 Validity

A paradigm is "a world view, a general perspective [and] a way of breaking down the complexity of the real world" (Patton, 1990, p. 37). Using the metaphor of a net, Denzin and Lincoln (2011) wrote that a paradigm is interconnected and encompasses "the researcher's epistemological, ontological, and methodological premises" (p. 13). When educational researchers fail to clarify this paradigmatic awareness, Koro-Ljungberg, Yendol-Hoppey, Smith, and Hayes (2009) warned that the "research designs can appear random, uninformed, inconsistent, unjustified, and/or poorly informed" (p. 688). With this in mind, I take a step back and explain my paradigmatic ontology (knowledge), epistemology (what can be known), and methodology (how research is conducted; Guba & Lincoln, 1994) within a constructivist paradigm. In terms of ontology, a constructivist paradigm is useful to "study the multiple realities constructed by people and the implications of those constructions for their lives and interactions with others" (Patton, 2002, p. 96) and that it "must always be rooted to the context" (Miller & Crabtree, 1999, p. 10). In terms of epistemology, researcher and participants construct knowledge together (i.e., cocreators; Miller & Crabtree, 1999). Methodology "focuses on the best means for gaining knowledge about the world" (Denzin & Lincoln, 2011, p. 91) and, hence, constructivists "offer perspective and encourage dialogue among perspectives rather than aiming at singular truth and linear prediction" (Patton, 2002, p. 546), allowing the study to be "different things to different people" (Flyvbjerg, 2011, p. 312). Flyvbjerg recommended, in a case study report, to "tell a story in its diversity, allowing the story to unfold from the many-sided, complex, and sometimes-conflicting stories that actors in the case have told researchers" (p. 312). In sum, by taking a constructivist stance, "I can show you multiple truths" (Patton, 2002, p. 578).

There is "no ultimate truth [only] context-bound constructions that are all part of the larger universe of stories. Constructivist inquiry is best for storytelling" (Miller & Crabtree, 1999, p. 10). Hence, I wrote four dancers' stories around the categories and developmental stages in which my interpretations about their talent development "reflect some theoretical propositions" (Yin, 2009, p. 141), providing "order and logic to the human experience" (Holley & Colyar, 2012, p. 115). To get an in-depth analysis of each case, a maximum of five cases are ideal (Creswell, 2007); hence, I chose to write only four dancers' stories. I requested the four dancers to "corroborate or question" (Hays, 2004, p. 233) the stories that I had written about them, involving them as 'cocreators' in the process (Miller & Crabtree, 1999). This process of "informally and formally checking" with the dancers how well my interpretations reflected their meanings, known as "member checking" (Merrick, 1999, p. 27), is one way of enhancing validity of research findings. The dancers replied with several changes, which I followed. (Member-checking was also done with the other four dancers—Ginny, Maria, Sam, and Zihao—whose quotes appeared in Act II). Likewise, in Act III, I shared the findings with the participants who replied with additional ideas, clarifications, or corroboration because constructivists are "oriented to the production of reconstructed understandings of

the social world [and] value transactional knowledge" (Denzin & Lincoln, 2011, p. 92).

5.2.6 Credibility

I followed Lincoln and Guba's (1986) credibility criteria, guided by constructivist inquiry, to enhance "trustworthiness" (p. 76) of my findings. I was "better able to understand and capture the context" (Patton, 2002, p. 262) in terms of prolonged engagement and persistence observation (Lincoln & Guba, 1985) in the institutions, and with the staff and students in Finland and Singapore (Act III). In particular at the Finnish site, I observed dance lessons from Basic, Lower Primary, and Upper Primary levels (7 to 15 year-old) to Vocational level 1 to 3 (16 year-old and above). I hoped to create rapport with the Finnish students by allowing them to become familiar with me over a prolonged period of engagement of approximately four months in their dance community before data collection began. Persistent observation in the field is necessary, especially with a cross-cultural research, where I am an "'outsider' [who] demands preparation to enter the field in a credible manner" (Morrow, 2005, p. 253).

6 Act II: Successful dancers

The aims of this chapter are to clarify the factors that impacted the *success* or accomplishments for dancers and to determine whether the factors identified hold across different cultures in dance. How dancers become successful is a matter of interest to educators, policy makers, and dancers alike (Baumol et al., 2004; Burns & Harrison, 2009) since it has implications for educators in identifying and nurturing dance talents, for funding agencies in allocating scarce resources to mentor talents, and for dancers in using appropriate strategies to realize their dreams.

The stories of Jamal, Jani, Christina, and Sini illustrate the factors for achieving success: "Nonconformist," "Exemplary Dancer," "Go-Getter," and "Trailblazer." How were the four dancers' stories chosen from the eight? First, I chose the negative case (Patton, 2002) of Nonconformist to show how Jamal, despite all the odds, went on to become an accomplished ballet dancer in Singapore and abroad. Jamal's Finnish counterpart is Jani, the Exemplary Dancer who exemplified progress through early training and guidance from supportive and knowledgeable people—common among the Finnish dancers in this study and the 21 world-class pianists in Bloom's (1985) seminal work. Next, I chose Trailblazer to illustrate Sini's developmental pathway that led to a long, successful career as a contemporary dancer that surpasses her peers', not unlike "Beyonders" (Torrance, 1993) or "Pathmakers" (Harrington & Boardman, 1997). Sini's Singaporean counterpart is Christina who called herself "Go-Getter" because she will "make an effort to try and follow through [the opportunity] and seek it out." I used actual interview quotes from the data sources to illustrate examples in the following "dense narratives [that are] based on thick description" (Flyvbjerg, 2011, p. 311; see Appendix B).

6.1 Jamaludin bin Jalil or Jamal—Nonconformist

From Start to Peak time

Self-efficacy. In 1987, 25-year-old Jamal was called to the Bar; he could have become a lawyer but he did not. Having the "conviction" that he "could actually make a success" out of ballet is instrumental to Jamal's decision to forsake law for ballet as a career. Relatedly, self-efficacy is "the conviction that one *can* successfully execute the behavior required to produce the outcomes" (Bandura, 1977, p. 193; emphasis added). According to Bandura's (1986) social cognitive theory, verbal persuasion, especially from trustworthy sources, can significantly increase individuals' confidence in their capabilities. In Jamal's case, his beliefs were influenced by self-appraisals, and evaluative feedback and judgments from teachers and dance critics. Therefore, he made his "life's most important decision" to become a ballet dancer instead of a lawyer:

> I think if that certainty, even though it may not have been clear then, but the possibility, that certainty of success was there, was what turned the tables and made me actually say 'Yes, I should then try this out.'

Start and Peak times

"Big-M" motivation. Striving for excellence has been a productive influence for Jamal's development. "One thing that has driven me [when I was] young," Jamal said, "which probably was a major contributory factor for my dancing, was the fear of mediocrity. Even when in school, in whatever I did, I did not want to be average." He set high goals, hoping to excel in life probably due to his humble background. His parents sold *nasi lemak* [coconut rice] to support him and his four siblings through school. From Malacca, he and his family moved to Singapore in search of a better livelihood.

Biases and financial sacrifices took a toll on Jamal but that only spurred him to success. Jamal felt that the stigma of male ballet dancers was "rather insignificant" to him; rather, he was "extremely upset" when artists are viewed as "idlers." Close friends and family members thought that his decision to abandon law for ballet was "unbelievable" or even "foolish." In terms of financial sacrifices, the income gap between a lawyer and a dancer was the most apparent to him. For instance, his lawyer-friends could apply for credit cards as soon as they started working while he had to wait for about eight years. "Maybe because I gave up some things in life," he explained, "that incited me to want to earn people's respect and recognition with my dancing."

Start time

Chance. Jamal's introduction to ballet came about by a fluke: He was "so bored" while working part-time after his 'A' level examinations (or grade 12) that when a friend suggested that he study ballet, he pounced on it. Due to Jamal's socioeconomic background, he would never consider learning ballet on his own: "My goal in life is actually to get a good job and earn money." Yet, at 18 years old, he discovered that he "loved" ballet after trying it out for only three months. Fortunately, Goh Soo Khim offered him a scholarship at her Singapore Ballet Academy that allowed him to continue dancing as a hobby while reading law at the National University of Singapore. Goh also offered him performing opportunities with her semi-professional company, the Ballet Group of the National Dance Company. Jamal's willingness to take advantage of opportunities that fortuitously appeared—known as Chance II or "chance [that] favors those in motion" (Austin, 1978/2003, p. 76)—greatly contributed to his development.

Peak time

The next event that helped Jamal in realizing his aspiration was when Goh, with her colleague Anthony Then, started a professional ballet company in 1988 the first in Singapore. They invited Jamal to be one of the seven full-time dancers. "If not for the formation of the Singapore Dance Theatre," Jamal said, "the prospect of

pursuing a professional career in dance would not have been a concrete idea in my head."

Finally, Jamal reached the pinnacle of his dancing career when the Les Grands Ballets Canadiens de Montréal's artistic director Lawrence Rhodes "talent spotted" Jamal in New York and offered him a contract. Jamal was in New York at that time studying for a Master's degree after winning the Young Artist award. The latter two serendipitous events when he was offered contracts by Goh and Rhodes, resembling Chance III (Austin, 1978/2003), impacted Jamal's development; already a well-trained dancer, he was at the right place at the right time, but more importantly, he had the prudence to grasp the opportunities.

6.2 Jani Talo—Exemplary Dancer

Start time

Supportive parents. In 1985, eight-year-old Jani started systematic ballet training in the U.S. that "made a big difference" in his development, and he attributed this to his parents:

> I would never be in [the] Washington Ballet [school and company] if it weren't for my parents because they moved there for work. So in that way, they gave me an opportunity to go to a more professional school at an early age, which would not have happened in my hometown [in Turku] at that point.

This parallels Bloom's (1985) study of eminent pianists whose parents provided ample support by seeking appropriate teachers, and providing transport and financial resources for training—during the first stage of talent development—when the pianists first started learning the piano.

Jani also described his parents, who are academic researchers, as "really important" and have "always been very positive" in supporting his interest in ballet. He said that his parents might have been "too supportive" at times because when he wanted to quit ballet, they did not let him. This happened when he was about 12 years old: "I fought and I don't want to go [to ballet] anymore … I just wanted to be out to play with my friends." Another instance was when he was about 19 years old: He had a girlfriend in Finland and he did not want to return to Washington. His parents coaxed, "You should go back." In retrospect, "Decisions like that when you're young, you could do it at the spur of the moment which really don't make much sense," Jani said. Thus, in Jani's case, his "positive parental involvement" in the form of "initial pressure" (Subotnik & Jarvin, 2005, p. 347) was paramount to his success. His parents had helped him to persevere during times of developmental transition by insisting that he steadfastly pursue his dance interest and career. Eventually, he stayed on at the Washington Ballet as a full-time dancer until 1999. Thereafter, he joined the Finnish National Ballet, where he is now a principal dancer.

Knowledgeable teacher. Another dominant influence on Jani's early development was his teacher Mary Day at the Washington School of Ballet. He had a

"special connection" with Mary because she "was really positive" towards him. He characterized Mary as "someone who could look out for me and really guide me in the right direction." Dance, like music, is not self-taught; imparting technical skills, content knowledge, and rules from expert teachers to students is a critical component of a student's development, according to Bloom's (1985) second stage of talent development. While Jani noted that he has had "good teachers for ballet and for dancing" who helped to improve his technique, the finding here is consistent with other studies wherein students' talent development is particularly influenced by teachers who provide emotional support and guidance, and not those who only impart technical knowledge. In the Netherlands, dance conservatory students and their teachers described the characteristics of the current, *daily* teacher as "geared toward future profession," "took interest in student as a dancer," "motivating," and "positive" (van Rossum, 2004, p. 51). Pre-tertiary dance students in Singapore attributed their development to inspiring teachers who gave affective support and encouragement, and immediate feedback (Garces-Bacsal et al., 2011).

When Jani wanted to try something new, Mary would put things into perspective for him by saying, "Don't do it now because it would not work for you," or "It's not the right time for you." Jani said, "It's important for young kids that there's someone who can judge what is the right step for the student to take, [for example], a 'smart eye' from the teacher [who ensures] that you get the things at the right time." Subotnik and Jarvin (2005) also highlighted the notion that knowledgeable teachers can impact students' development by providing tacit or explicit knowledge of what could 'make or break' a successful career.

Peak time

Chance. Chance is another dominating ingredient in Jani's success in the early stage of his professional career. Unlike other dancers who constantly battle with injuries (e.g., Laws, 2005), Jani, until age 30, had never suffered serious injury. He attributed this partly to warming up adequately before dancing and partly to luck: "I've been lucky enough to stay healthy." Luck or Chance I befalls a passive recipient who has no control over the outcome (Austin, 1978/2003). Furthermore, because it is "really important to have the first place to show that you can do something," he cited an example in which he danced a first soloist role in Heinz Spoerli's *Midsummer Night's Dream* in his first year at the Finnish National Ballet and soon, other major roles followed. A combination of Chances I and III aided Jani's development. He elaborated:

> You have to be lucky because sometimes it isn't even a matter of just pure talent, I mean, it's a matter of timing and being in the right place at the right time, if you're given opportunities, the right person has to see you … someone likes you, someone doesn't like you.

6.3 Christina Chan—Go-Getter

Start time

Task commitment. A corpus of research has shown that hard work and perseverance—usually manifested in prolonged engagement and task commitment—are prerequisites for outstanding achievement (e.g., Subotnik & Jarvin, 2005). Likewise, Christina, since she was a child, values task commitment or "a refined or focused form of motivation" (Renzulli, 1986, p. 69). At 12 years old, she transferred from a local ballet studio to the Singapore Ballet Academy. She "struggled" in class because her peers were more advanced. She was also not very flexible; she could do a 'split' at only 90 degrees. She was "determined" to improve so she practiced the 'split' every night. Her perseverance paid off. In less than two months, she achieved her goal of doing a "flat second split" (i.e., approximately 180 degrees).

Optimal learning opportunities. Developing tacit knowledge (Sternberg & Horvath, 2002) via apprenticeships is significant to Christina's development. When Christina was a first-year student at the Boston Conservatory, she apprenticed at the Seán Curran Company. There are no clear rules about being an apprentice dancer and, hence, "somehow just being dumped in that situation," she had to learn quickly: "I've never done this before ... but I kind of just floated in and [figured] out how to do it." When she was a second-year student, she joined Alberto del Saz in Utah where he was to stage a Nikolais work for the Ririe-Woodbury Company. Again, this apprenticeship was beneficial to her development: "I got to see how a professional company works before I actually got out into the real world."

Productive mindsets. Christina embraces and thrives on challenges:

> I was always hungry [for] information so I've always been motivated ... I was sometimes, like, 'This is really scary. Actually I've never done this before,' but I started to like the fear of the unknown [and] I like not knowing a lot of things and that made me more excited.

For example, she attended auditions while studying in the U.S., despite being unsure whether she "[fit] this company's type" or whether she was "even interested" in the job. She said matter-of-factly, "Because I can learn something from it."

6.4 Sini Länsivuori-Engström—Trailblazer

Start time

Self-efficacy. Sini almost quit ballet when she was a teenager: She was "bored." Fortunately, she met Marita Ståhlberg, principal of the Finnish Ballet School, who was teaching at the Kuopio Dance Festival. Marita invited Sini to audition at the Finnish Ballet School, despite explaining to Sini that she did not have "strong technique." Having somebody like Marita who "trusted" that Sini could further develop in ballet, support she "didn't have before in Kuopio," motivated Sini to work hard

to pass the audition. Eventually, Sini passed the audition, but she still needed to improve in order to advance one level higher to be with her same-aged peers at the Finnish Ballet School. Within a year, she achieved that goal. "I knew my target: I knew that I have to develop my technique and I was working a lot to achieve that with [Marita]." A teacher's verbal persuasion that led Sini to become more efficacious and committed in dancing is likewise evidenced among 9–15 year-old ballet conservatory students in the U.K. (Pickard & Bailey, 2009). Maijala (2003) in her study of 12 top soloists (violists, violinists, cellists, and pianist) in Finland also noted that the musicians' first music teachers' verbal persuasion strengthened the musicians' self-efficacy.

Peak time

Perseverance. Sini had "a really hard time with a back injury" for many years but she prevailed: "You have to have your *sisu* [perseverance], your own will to do it." She made reference to her former classmates at the Finnish Ballet School who lacked determination in overcoming adversity: "They just didn't have this motivation enough to recover [from injuries] and to go on and on and on [and] they weren't ready to face the difficulties." She said, as a contrast, "I can have a long-term motivation [and] I can keep up even if it's difficult. I can just kind of keep going." This psychological strength that has been crucial for Sini's success is echoed in Schlosser's (2001) study of eminent Finnish women who overcame difficulties with "perseverance, determination, and courage" (p. 71).

Developed social skills. Sini attributed her success to her friendship and collegiality with Tero Saarinen and Henrikki Heikkilä who she has known for about 30 years since they were students at the Finnish Ballet School, dancers at the Finnish National Ballet, and now colleagues at the Tero Saarinen Company: "Our connection ... has been a really big thing in my career." Sini said:

> I've been able to work with the same people and share the same ideas and develop with each other. And still today, we were laughing at the studio. The three of us are thinking how to develop the choreography that we have been dancing for more than 10 years. We still want to find new things out of it.

Risk taking. A study conducted with teachers at three world-renowned music conservatories, and gatekeepers (e.g., critics) indicated that risk taking is "the key to true artistry" and of "vital importance" enabling musicians to soar in their careers (Jarvin & Subotnik, 2010, p. 84). Similarly, Sini took a leap of faith in 2003 by transforming herself from a ballet dancer into a contemporary dancer. She left the "secure company" (i.e., Finnish National Ballet) to "find something deeper, something more specific in developing [herself]" with the Tero Saarinen Company. Indeed, that was "a big risk, financially and every way"; but, more importantly Sini said, "I didn't know if I can become a contemporary dancer." The risks paid off because Sini is able to sustain her dancing career with the TSC. For example, at the time of our interview, Sini was about to perform the lead role in *Petrushka* at the Dublin Dance Festival; this would not have been possible at the Finnish National

Ballet where the "official retirement age [is] 43" (Marten & Ruohonen, 2013, para. 11), among other factors.

Sociocultural contexts, and supportive parents and spouse. Sini is the only dancer interviewed who has children. She received maternity and parental allowances from the Social Insurance Institution of Finland when she had children in 1997 and 2002. Later, she was able to travel within Finland and overseas with the TSC for as long as "two weeks" because her "very understanding" husband (a naval officer) and her "helpful" parents helped with babysitting the children. Without the initial financial support provided by the social services in Finland and, later, help from her husband and parents, Sini would not have been able to perform with the TSC, widely hailed as Finland's most successful international dance company. In Yewchuk, Äystö, and Schlosser's (2001) study, the eminent Finnish women also emphasized how the social services greatly facilitated their career success.

6.5 Discussion

Due to the detailed examination of the four dancers' stories, inevitably, their success factors and talent trajectories appear far more heterogeneous than they are alike. Now, I broaden the analytical lenses and present the most influential success factors for all eight dancers. Admittedly, scholars have contended that no formula-for-success could accurately predict adult achievements for gifted individuals (e.g., Keating, 2009), including dancers. Still, it can be useful to clarify the similar ways in which the dancers negotiated successes and obstacles, despite their vastly different backgrounds (e.g., gender, dance genre, and ethnicity). Results—in accordance with the mega-model (Subotnik et al., 2011)—indicate that (a) a high level of abilities, (b) motivation, (c) task commitment, (d) productive mindsets, (e) social skills, (f) supportive and knowledgeable people, (g) optimal learning opportunities, and (h) chance have impacted the dancers' development. Inductive analysis indicates that self-efficacy is also crucial, suggesting that further research might help to elaborate the model. Overall, the success factors for the two culturally different groups of dancers appear more alike than different.

First, in terms of "Big-*M*" motivation, the ballet dancers aspire to dance lead roles, perhaps due to the hierarchical nature of their career that is more explicit than in contemporary dance. More importantly, all dancers have a compelling drive to perform which underpins their commitment and drive to excel. This was mirrored in Piirto's (1998a) study of 80 successful writers who all had "an overwhelming motivation to write" (para. 45). Piirto (1998b) termed this as the "thorn" (p. 41) driving artistic individuals to engage in their domains. In terms of "little-*m*" motivation, all dancers appeared to be stimulated by new and challenging experiences, such as participating in highly competitive enrichment programs during the start time or working with creative, demanding choreographers during the peak time. Such immediate, intrinsic rewards are necessary to sustain the dancers' motivation, especially due to dancers' need to engage in long, arduous years of training amid the elusiveness of career success in dance.

Second, task commitment is a vital determinant for the dancers' success. The dancers emphasized the importance of "discipline," "sacrifices and hard work," "[setting] a very specific schedule," and "[being] very patient," which are consonant with the characteristics described by Renzulli (1986)—"perseverance, endurance, hard work, [and] dedicated practice" (p. 69). On the other hand, without the core abilities necessary for dancing, no matter how much effort the individual invests, talent will not suffice. Indicators of potential are evident in all dancers: the ability to concentrate, to remember dance sequences, and to dance to the tempo and beat of music, and flexibility. Notably, Ginny started formal ballet training relatively late, at 17 years old, but being a former gymnast in the national team aided her development.

Third, all dancers subscribe to productive mindsets, believing that they can improve their technique over time. Due to the dancers' desire to learn, they embraced criticism and feedback from choreographers, critics, and teachers (e.g., "The teachers just tell you straight what is wrong and that you are bad [but] I know that it was good for me."). All female dancers and Sam experienced their first setback when entering a dance conservatory. Their self-confidence was affected when they compared themselves to the new peer group. This same reality was echoed by music conservatory teachers who noted that their students' self-confidence often lowered after becoming a small fish in a big pond in their highly-competitive programs (Jarvin & Subotnik, 2010). In the present study, the dancers adopted strategies to improve their skills instead of giving up. During the peak time, all female and Finnish male dancers suffered setbacks such as not being able to perform due to injuries, or not getting a lead role or a permanent job. Perseverance in the face of adversity is particularly relevant for Sam's success. He auditioned relentlessly in Europe for two and a half years. "I'd been to hundreds of auditions," Sam said, "and I learned from them."

Undoubtedly, mindset is a powerful construct for understanding why and how dancers respond to and surmount the setbacks they encounter and stay committed to their long-term goals. Yet, understanding how the dancers grow to have a robust sense of confidence to persist in this difficult enterprise via successes is also crucial in understanding their long-term motivational patterns. Lending support to my claim, Bloom (1976) suggested, "An individual tends to like those activities which he believes he has done or can do successfully" (p. 78) and Burney (2008) argued that "motivation is stronger" (p. 131) for individuals who believe they can succeed. Furthermore, Gunersel (2009) found that self-efficacy has impacted the achievements of four eminent Turkish writers. Here, I postulate that the dancers' success trajectory is attributable to a strong sense of self-efficacy. Verbal persuasion (as seen in Jamal's and Sini's stories), mastery experiences, and vicarious experiences impacted the dancers' perception to succeed at or accomplish certain tasks.

Mastery experiences have the strongest influence on an individual's self-efficacy (Bandura, 1986): The dancers' self-efficacy for a task becomes stronger after they experience success in that task. One of the tasks, for six dancers at the beginning of start time, revolved around dance conservatory auditions that typically involve rigorous selection processes. Gradually, during the start time, the dancers' confidence was boosted after accomplishing similar tasks such as audi-

tions for summer programs, casting auditions, and placement classes (e.g., "My other success was when I went to the Ailey School's summer program [where] I trained at the highest level ballet class with the [Alvin] Ailey main company dancers. From then on, my goal is going up and up."). During the transition from start to peak time, and peak time, being offered a contract, landing coveted lead or first cast roles, or having roles specially created for them influenced the dancers' beliefs. Bandura (1986) noted that individuals should interpret results in relation to others. A case in point, although Sam did not get the job, he felt successful having emerged in the final eight out of 1,200 dancers who auditioned at the Batsheva Dance Company: "That told me, 'Ok, I'm not so bad,' so that gave me the confidence." Next, an individual's self-efficacy can also be strengthened by vicarious experiences or by observing a peer succeed at a task (Bandura, 1986). "When you see something good, you see 'That's possible' and you see the 'Wow!'" Maria said, "and then you start to try if you can do it and what you can do." Ginny offered a similar insight; understandably, "dancers look at the mirror every day," she said.

In regard to optimal learning opportunities, participation in enrichment programs such as summer programs, apprenticeships, and competitions was especially conducive to all dancers' talent development. Maria's meteoric rise to become a principal dancer at 19 years old was fueled by her early victories at numerous prestigious competitions. I firmly believe that such learning experiences could cogently bolster young dancers' psychosocial skills in terms of learning how to overcome occasional setbacks, value criticism as much as praise, engage in 'friendly' competitions with peers to improve skills, embrace challenges and risks, and network with gatekeepers. As Subotnik, Edmiston, Cook, and Ross (2010) found, exposing talented high school students, including dance students, to real-world situations via enrichment programs and mentoring could hone their skills to handle "both the exciting and deflating patterns of success and failure" (p. 719), especially when they have been sheltered from persistent failure in school. Therefore, dance students should, within their financial means and time availability, participate in relevant enrichment programs locally and internationally. As Csikszentmihalyi et al. (1993) usefully stated, "Without the knowledge-tools of the domain, potential cannot be actualized" (p. 31). Of course, IT-savvy adolescents, as compared to their counterparts in the yesteryear, could readily access the Internet for information about enrichment programs. Still, it takes a knowledgeable teacher to recommend a challenging program that matches the students' capabilities and needs.

Chance, consisting of a constellation of sociocultural contexts, helped to address the fortuitous success for the dancers. The interaction between the dancer, domain, and field, known as a "systems" approach (Csikszentmihalyi, 1988), is an effective way of conceptualizing sociocultural contexts. The field consists of 'gatekeepers' (e.g., funding agencies, artistic directors, and critics) who influence or control a domain (e.g., ballet or contemporary dance); they judge and choose dancers deemed talented. To illustrate, all dancers received study grants, awards, and glowing reviews from gatekeepers in Finland or Singapore (or internationally, for a few) who evaluated them as talented (i.e., acceptance by the field). Prior to that, all dancers had supportive and knowledgeable mentors and teachers who identified

and nurtured their potential (i.e., as ready for the domain). Furthermore, the Singaporean dancers live at a time when their talents meet the society's needs: the timely establishment of National Arts Council (NAC) by the Singapore government in 1991 to oversee arts development afforded them scholarships to study internationally (i.e., gaining cultural and social capital). Also, three found their first jobs with newly established dance companies in Singapore. Incidentally, these companies receive funding from the NAC, reinforcing the point that the culture values and supports the domain (Csikszentmihalyi, 1988).

Is it possible for dancers to achieve success without luck? In the present study, some dancers believed that they were "lucky" to have met influential people at the right place at the right time. Others underplayed the role of luck and reflected how they actively approached the teachers or choreographers for guidance or sought opportunities to perform certain roles (i.e., developed social skills). All Finnish dancers and Ginny are lucky to be born or adopted into a family that supports and nurtures their dance interest, and most dancers are endowed with physical attributes suitable for dancing (e.g., height). Clearly, however, for those who lack such fortuity, they were still able to optimize their situation and become successful (e.g., Zihao said, "[My parents] have always thought that dance was just a hobby. Even till today, after so many years, [but winning the Young Artist] award has assured them that their son is really serious about what he is doing."). Given the evidence presented here, and contrary to lay people's beliefs, perhaps it is time to reconsider that dancers might not have only one definitive pathway to success. The important implications for educators to consider are: (a) to explicitly address, with parents and students, the false assumptions of how talented dancers 'look' or behave (i.e., implicit theories) since empirical research has yet yielded conclusive results about whether the physical abilities and traits typically displayed by talented dancers are innate, trainable, or an interaction of both, (b) to avoid pre-judging career potential for young students, based on students' innate abilities or lack thereof, and (c) to expand their repertoire of psychological skills to effectively motivate and encourage students.

In terms of developmental stages, there is a salient difference between the two groups of dancers: The Singaporean dancers reached their start and peak times later than their Finnish counterparts; they completed their secondary (or grade 10), technical, or tertiary education before devoting full-time to a professional career (for Jamal) or dance conservatory training. This result is elucidated by Garces-Bacsal's (2013b) study conducted at Singapore's only pre-tertiary arts school; in her findings, even though the students perceive support from their parents in their artistic interests, their parents "still highlight and emphasize the premium that they place on academic achievement" (p. 15). Singaporean parents' obsession with their children's academic achievement has been well-documented (Cheo & Quah, 2005; Kenway & Koh, 2013). Can future Singaporean dancers sufficiently compete in a global dance arena if they continue to 'play it safe'? What if they follow the conventional wisdom of 'the earlier the better' by starting formal dance training earlier? What if Singaporean parents are more actively supportive of their children's interest in dance and less preoccupied with their children attaining 'proper'

academic qualifications? Future research might illuminate these issues further by investigating the role of social support in dance talent development.

7 Act III: Exceptionally talented dance students

Research about how students thrive on social support is important. It provides insights for counselors, educators, and parents into how students can capitalize on positive relationships with significant individuals to excel. Results revealed three salient themes—being there, sharing, and knowing—which shed light on how well exceptionally talented dance students are supported by significant individuals. Within these themes are a number of generic and sub-categories that further explained the particular types of support (see Table 13). In the first phase, both girls and Wei were seven years old when they started ballet as an after-school activity. Antti, the negative case (Patton, 2002), started ballet at 16 years old. The men studied mainly with one teacher during the first two phases. In the second phase, ten-year-old Emilia and 13-year-old Feng began "intensive" "higher level" lessons. In the third phase, the students were 15–20 years old when they began pre-professional training. In the following section, all quotes are from the data.

7.1 Being there—Supportive family

Within the theme *being there* are two generic categories—'providers' and 'cheerleaders' (foreground or background)—that summarized the family members' roles in the students' development during the three phases. As providers, during the first two phases, the parents provided money that afforded all four students ballet training opportunities. Providing transport and practical advice "when they are smaller" was also essential: "You have to show them the route [and] to eat before the class," said Mrs. Aalto. During the third phase, not unlike the musicians' parents in Bloom's (1985) study, the Singaporean parents continued to pay for ballet training and gear. On the other hand, the Finnish parents did not have to pay for school or competitions abroad since vocational education in Finland is free (Ministry of Education & Culture, 2013). Emilia, however, transferred to another school in Europe in her third year of studies and, henceforth, relied on her parents for financial support (e.g., tuition). Also, Antti, who lived away from home, relied on his parents for rental and living expenses: "I wouldn't have the money to stay here [in Helsinki]. So without them, I couldn't do this."

As cheerleaders in the foreground, the family members reassured, advised, and guided the students in their dance endeavors. First, the parents reassured and offered the girls strategies to overcome setbacks when Emilia transitioned from the first to second phase and when Feng transitioned from the second to third phase. While music conservatory students' self-confidence often lowered after becoming a small fish in a big pond in their highly-competitive programs (Jarvin & Subotnik, 2010), it is unclear how they rebuilt their confidence. In the present study, the parents helped the two girls restore their confidence, especially when the girls compared themselves to the new peer group in an advanced class. Ten year-old Emilia was the smallest and youngest in the advanced class, so she was "sometimes crying

a bit, like, she was behind and she can't do it," so Mrs. Aalto tried to "comfort" Emilia and "asked her to be patient with the body [because] the posture and alignment take time to develop." Mrs. Aalto's valuing of perseverance was influential to Emilia's development: "Give at least two and three years until you technically caught up with the other girls," Mrs. Aalto said. Similarly, Mr. Tan advised Feng to focus on "a lot of hard work [and] practice" and "determination" rather than relying on only innate abilities. "You can't just escape with no practice but with lots of talent," said Mr. Tan who influenced Feng the value of growth mindset (Dweck, 2006).

Table 13. The role of social support in Finnish and Singaporean students' dance talent development

Family	**Peers**	**Teachers**
Theme: Being there	Theme: Sharing	Theme: Knowing
Generic category: *providers* (informational and instrumental support)	Generic category: sharing information, common interests and goals, and promoting camaraderie (informational and emotional support)	Generic category: understanding the students' needs (informational and emotional support)
<u>First and second phase</u>	<u>First phase</u>	<u>First phase</u>
Sub-category: • providing transportation (*All, except Antti*) • providing general advice (*All, except Antti*)	Sub-category: • sharing information to improve technique (*Antti only*)	Sub-category: • teaching for foundation (*All*)
<u>First, second, and third phase</u>		
Sub-category: • providing financial resources (*All*)		
Generic category: *cheerleaders* (informational and emotional support)		
<u>Second phase</u>		<u>Second phase</u>
Sub-category: • reassuring and advising students to overcome setbacks (*Girls only*) • guiding students in career paths and choices (*Girls only*) • advising student to improve technique (*Antti only*)		Sub-category: • teaching for precision (*All*) • advising students to join more advanced or pre-professional course (*All*) • guiding students to audition for pre-professional course (*Finnish students only*)
<u>Third phase</u>	<u>Third phase</u>	<u>Third phase</u>
Sub-category: • communicating care and concern (*Antti only*) • watching student's performances (*Antti only*)	Sub-category: • sharing information to improve technique (*Finnish students only*) • sharing similar interests and goals (*Finnish students*	Sub-category: • teaching for precision (*All*) • showing empathy (*Girls only*) • influencing students' mindset (*Finnish students only*) • teaching for personal expres-

	only) • enjoying one another's company (*Finnish students only*)	sion via authentic learning experiences (*Finnish students only*)
		Generic category: knowing the demands of the industry (informational support) Sub-category: • providing tacit knowledge (*Finnish students only*)

Second, the parents guided the girls in their career paths and choices in ballet. Especially Mr. Tan's support in Feng's choice for ballet over academic studies and his belief in her potential were paramount in the way he recommended strategic (e.g., locating the best dance schools) and difficult decisions (e.g., Feng gave up a place at the prestigious School of the Arts in Singapore) for Feng's development. His support resembles that of the parents of a musically talented Singaporean adolescent (Ho & Chong, 2010), but contradicts the findings that Singaporean parents placed emphasis on their children's academic achievements over the arts (Cheo & Quah, 2005; Garces-Bacsal, 2013b). "[I told Feng] 'Perhaps you should forget about your studies,'" said Mr. Tan, "I want her to focus right now just on ballet because if you focus on something at a time, then you can achieve something." Third, for Antti, having his sister Päivi in the same advanced ballet class during the second phase proved important to the development of his dance technique. Antti described the advice Päivi gave him: "She was always giving me instructions [and] saying corrections for me and she was like another teacher in the class."

As cheerleaders in the background, Antti's parents and sister encouraged Antti by caring about him and valuing his career choice that, in turn, motivated him to succeed. Antti explained: "Whenever [my parents] call me or something, they'll say 'train hard, eat well.' They are really supportive. It's really nice that you know that they want the best for you." Moreover, Antti's family "always" traveled (about two hours) to Helsinki to watch him perform.

In sum, this study suggested that parental support was crucial in all the students' 'early' development. Results, therefore, supported a body of literature that indicated parents' financial resources and transport (e.g., Freeman, 2000), at least middle social economic status (Csikszentmihalyi et al., 1993), values (i.e., hard work and perseverance; Greenspan, Solomon, & Gardner, 2004), and encouragement to pursue interests (Bloom, 1985) were optimal for talent development in ballet. Interestingly, Uusikylä (1991) found that talented dance students, more than the acting and graphic design students in Finland, described their home environment as supportive. Whether these different perspectives still hold today warrant further investigation, given that Uusikylä's study was conducted more than two decades ago and had not been replicated. As found previously (e.g., Bloom, 1985), the parents' involvement (except Antti's) was the greatest from childhood to early adolescence and gradually declined from mid-adolescence (e.g., "I try to be [supportive]. But it's more difficult now when she's a teenager."). Despite that, all students valued their parents (and a sibling) for their willingness and availability to

render support when the students needed it across all phases (e.g., "They're ready to give you the best they can"), reinforcing the theme *being there*.

7.2 Sharing—Supportive peers

While the role of peers has been cited by studies as conducive for sustaining interest and involvement in dance (Aujla et al., 2014; Sanchez et al., 2013) and artistic activities (Fredricks et al., 2002; Lee, 2002; Patrick et al., 1999) during adolescence, do peers *influence* talent development? According to the Finnish students, peers were important sources of emotional and informational support during the third phase: "My motivation increases when you are with similar-minded people [who] all are doing what we like," "we share with each other advice and suggestions [such as] a new stretching exercise," and "every time we have a production in here, the atmosphere is always nice [and] we're just joking and playing." Likewise, the kind of peers who supported the successful musicians during the third phase were "people who shared the same commitment and provided stimulation and challenge" (Sosniak, 1985, p. 423). Conversely, missing from the data was the influence of friends in the Singaporean students' talent development. Understandably, unlike the Singaporean students, the Finnish students spend a great deal of time together in class, rehearsals, and leisure throughout the school term, and pursuing a common career goal that probably spurred them to support one another.

Inductive analysis revealed that vicarious experience or observing a peer succeed at a task (Bandura, 1986), especially when the adolescents are inexperienced or unsure about their own capabilities to accomplish certain tasks (i.e., "If he can do it, so can I!"; Pajares, 2012, p. 116), strengthened Antti's self-efficacy in ballet during the first phase. Antti credited the two boys in his first ballet class for motivating him to become a better dancer: "They were much better than me because they had been doing [ballet] longer than I had. So maybe first I was comparing myself to them [and] I wanted to do as good as they did." Importantly, Antti stressed that it was not "just pure competition" but about "helping" one another. This finding resembled Risner's (2009) study in which a gymnast-turned-pre-professional dance student found peer support important to his development: "There's no competition between the students [and] it's always about learning and growing" (p. 137).

Thus, the theme *sharing* meant sharing information to improve dance technique, sharing common interests and goals, and promoting camaraderie.

7.3 Knowing—Supportive teachers

The theme *knowing* meant knowing the demands of the dance industry and understanding the students' needs; the latter will be elaborated in seven sub-categories. First, understanding the students' needs involved teaching for a foundation that is akin to musicians "learning the basics of reading music [during] the early lessons" (Sosniak, 1985, p. 33). All ballet teachers and students in the present study noted

the importance of mastering the "foundation" in ballet that facilitated learning in the subsequent phases. As Wei put it: "My first ballet teacher is important because she gave me my foundation. By foundation, I mean basic knowledge of ballet steps as well as posture [and] how I should present myself and carry myself in ballet class."

Second, teaching for technical precision (Bloom, 1985) is evident in all four students' second- and third-phase teachers. Embedded throughout the students' narratives was the importance of "constant corrections," "good advice," "good criticism and good feedback" from teachers to "improve" their dance technique (i.e., growth mindset). For the teachers, similarly, it was important to give "corrections" and "suggestions" to guide the students. Beyond the feedback about 'what to fix,' according to the teachers, feedback about 'what had been fixed well' was also important to motivate students (e.g., "It's so seldom you give the credit. It's so much easier to criticize [but] you also need [to tell the student] this: 'Yes, yes, go for it, now you have it!'"), concurring with findings elsewhere about the significance of verbal persuasion or praise in dance talent development (e.g., Pickard & Bailey, 2009).

Third, all second-phase teachers advised the students to join more advanced classes or to apply for pre-professional programs, which is consistent with Bloom's (1985) finding. To illustrate, Kelly advised Feng to "leave" her class and join the scholars program because "that can be something that will support what [Feng] wants to work towards" (i.e., to become a full-time dancer). Fourth, only the second-phase teachers in Finland guided the students for the audition at the Finnish Ballet School by rehearsing a variation (a classical solo) with them. Performing a variation is an audition requirement at the Finnish Ballet School, but not at the Singapore Dance Theatre.

Further, third-phase teachers knew the stress students were under and showed empathy, especially when the students suffered injuries, as evidenced by the two girls in the present study. According to Seiko, "I told [Feng] my experience when I was at [the ballet conservatory]. I also had several injuries and I went through a very down time." Moreover, Emilia described Vesa as a "good teacher" who "cheers" her up when she is "feeling down" and "helps or gives [her] time to recover during an injury." Interestingly, the finding here is indicated in studies in dance (e.g., Garces-Bacsal et al., 2011) *and* other domains: The teachers who adolescents most remembered for inspiring them to learn were those who showed abiding concern than only content knowledge (Csikszentmihalyi et al., 1993). This aspect of "[knowing] and [taking] a personal interest in their students" had also surfaced in a study examining the characteristics of 18 exemplary classroom teachers (Gentry, Steenbergen-Hu, & Choi, 2011, p. 116).

Third-phase teachers in Finland knew that in order to motivate the students to improve, they had to influence the students' mindset. When asked *how*, by her second year, she could have dance an impressive *Bluebird* pas de deux, Emilia credited Vesa for the "great transformation." According to Vesa, she influenced Emilia's mindset about her lack of innate abilities in ballet in her first year: "[Emilia] was totally blocked. She said, 'I don't have *turn out* [or] I can't do this,'"

so Vesa advised Emilia, "If you want to change, we have to forget these negative things."

Last, the Finnish students described the importance of learning "expressions," "feelings and emotions," "artistry," and how to "make every role his or hers with a vivid and personally influenced interpretation" in ballet during the third-phase from teachers in school and enrichment programs (e.g., summer program). These characteristics are consonant with Sosniak's (1985) description of third-phase mentors who teach for personal expression or "to find the meaning and emotion of the larger experience [and] to make personal decisions about expression and interpretation" (p. 422). When asked about the circumstances which facilitated his learning in how to portray certain ballet characters, Antti explained, "mainly during the performances and when you work in some productions, and then you have to have these things on the stage [but] not in ballet class when [the teachers] focus on technical things." As Dai and Chen (2013) made a related observation that "these learning experiences need to be authentic, resembling what professionals do in the real world as much as possible" (p. 157), the Finnish students had ample opportunities to perform in school and company productions (Finnish National Opera, 2013), and competitions (for Emilia only) on stage. Sadly, it was partly due to the lack of such authentic learning experiences that Wei left the scholars program in mid-2013: "We hardly perform: only once or twice a year." (Wei has since joined another scholars program in Singapore.) Teaching for personal expression *via* authentic learning experiences, necessary for transition into a professional dance career, is present only at the Finnish site.

For teachers to provide tacit knowledge, they must be familiar with the demands of the dance industry. Subotnik and Jarvin (2005) found that it is important for music teachers to provide students with tacit knowledge on how to become successful as a performer "by modeling how to be graceful in success and failure, and engender a reputation as a professional" (p. 348). Likewise, the teachers guided the Finnish students on how to transition into the professional dance world, such as applying for internships and developing social skills (e.g., "You have go to the theatre and say 'hello' and smile. This is all-important—how we react, how we act.").

Results indicated a difference between the teachers in Finland and Singapore in terms of addressing the students' developmental needs. While the third-phase teachers in Finland taught personal expression via authentic learning experiences and provided tacit knowledge that prepared both Finnish students to transition into the professional dance industry, such data was absent about the teachers in Singapore. This raises questions concerning the extent to which third-phase teachers support Singaporean students for a professional career. Previous studies have indicated the importance that successful dancers attribute to such knowledgeable teachers (Araújo et al., 2009, 2011; Oreck et al., 2000). A deeper understanding of the role of third-phase teachers could contribute to strategies for helping Singaporean students in becoming a "true artist."

7.4 Summary of social support sources and types

The main goal of this study—examining the types of social support provided by significant individuals across the three phases of Bloom's (1985) model—proved to be viable since there is a consistency of support from family and teachers across the four cases, and support from peers across the Finnish cases. The significance of support type, first, was different across gender. The girls, more than the men in the present study, sought emotional support from adults. One explanation is that the girls experienced acceleration and injuries and, thus, appeared vulnerable in their self-confidence. Emotional support for the girls from third-phase teachers was especially notable, which are in line with the themes—verbal persuasion, affective support, and encouragement—described earlier in the Literature Review section. Parents, who most likely understood their girls' traits and behaviors, responded timely to the girls' distress that affected the girls' well-being and helped them transition effectively into the next phase. Second, instrumental support from parents was critical, although in varying importance, for all students during all phases. Third, informational support was essential from teachers across all cases during all phases (except for Wei), from peers across the Finnish sample during the third phase, but less from parents. It is worthy to note that among all students, only Wei did not nominate a third-phase teacher who impacted his development. I speculate that he has not yet met such a teacher who could maximize his potential. In light of the results here, I discuss some of the ways to support dance students' development across the phases.

7.5 Implications

In terms of educational implications, teachers should (a) counsel and empathize with students who are injured, (b) strive to use psychological skills to effectively reassure and restore self-confidence of young students who progress to a more advanced class, (c) hold a growth mindset, even during the third phase, to impress upon students that sustained effort, in addition to malleable dance abilities, are crucial in dance talent development, (d) praise students with immediate, explicit feedback, and (e) facilitate reflection, such as using explicit criteria, peers' feedback and video recordings, and focusing on students' strengths in order to deepen students' learning processes during the second and third phase, so that students are not overly reliant on teachers' feedback and focus only on weaknesses (see Leijen, Lam, Wildschut, & Simons, 2009, for a discussion about facilitating reflection activities in dance).

If viewed within Bronfenbrenner's (1979) ecological system, this study only investigated the innermost level of the system, *microsystem*, that is, social support from the students' family, teachers, and peers, the outermost level, *chronosystems* or life transitions, and the *macrosystem* or cultural contexts. Further investigation of the *mesosystem* (e.g., interactions between parents and teachers) and *exosystem* (e.g., events or situations indirectly impacting the student) in regard to dance talent development is warranted because these factors might also be influential. In this

study, it is plausible that these highly committed students matter-of-factly enjoy positive relationships with adults and, hence, an interesting topic for future research would be to examine any bidirectional relationship (i.e., direction of influence; Dai & Schader, 2002).

While the aim of this study was not to generalize, I sought to provide insight into how these exceptionally talented dance students thrived on social support in specific cultural contexts throughout the three phases of talent development. Much more exploration needs to be done regarding this unique but understudied population to fully understand how to guide and motivate them to fulfill their potential in this difficult enterprise. Subotnik et al. (2011) say it well:

> Psychosocial awareness and skills should be taught in all domains by parents, teachers, [and] mentors explicitly and deliberately, not left to chance [and] students should be helped to prepare for coping with the stresses, strains, and rewards of each stage of talent development, from potential to eminence. (p. 40)

8 Epilogue

Given the potential directions for future research, the conceptual framework on dance talent development illustrating the factors critical for influencing dance talent development over time in specific cultural contexts would be useful (see Figure 2). The diagrammatical model in which the categories were consolidated and summarized is derived from the empirical evidence from this study and the frameworks by Bloom (1985) and Subotnik et al. (2011). The word *model* is "characterized by the use of analogies to give a more graphic or visual representation of a particular phenomenon [and] having a broadly conceptual framework" (Cohen et al., 2011, p. 13).

Progressing from left to right, the model begins with the left column indicating the five factors for dance talent development: (a) abilities, (b) motivational beliefs, (c) supportive and knowledgeable people, (d) learning opportunities, and (e) social skills. All the dance participants went through four stages, aptly termed "budding," "blossoming," "maturing," and "seasoned." In the following description, I used the pronoun "he" because I have begun to use this model in a longitudinal study about talented male dance students.

The first stage occurs when the "budding dancer" shows indicators of early potential such as memory, body proportions, flexibility, and the ability to concentrate. The dancer is intrinsically motivated to attend dance lessons because he enjoys them. Such "little *m*" motivation is sustained by a teacher who teaches for foundation and a family who provides financial resources for dance lessons and dance gear. Unless the dancer is very young when he starts dancing, transport and general advice from family are important but not essential.

During the second stage, from a promising flower bud, the dancer now begins to blossom due to further nourishment from a teacher who teaches for precision and who encourages the "blossoming dancer" via verbal persuasion. The teacher advises or explicitly guides the dancer in auditioning for pre-professional dance programs. "Little *m*" motivation intensifies and is manifested in task commitment (e.g., spending more time on dance than before). He becomes more efficacious after experiencing success (i.e., mastery experience) such as getting a lead role in a dance production. Family continues to provide him financial resources but, importantly, to give general advice (i.e., positive and negative aspects) about coping with the demands of a rigorous training during this stage and about pursuing dance as a career towards the end of this stage.

By entering a pre-professional dance program that trains students to become dancers, the dancer is now metamorphosing into "a maturing dancer" in which he begins to display a high level of dance abilities during the third stage. His self-efficacy strengthens further due to mastery and vicarious experiences (e.g., by observing how his peers succeed and attempting the task himself). His growth mindset enables him to learn and grow further while coping with the demanding and oftentimes competitive program. His commitment in dance is fueled by a knowledgeable teacher who teaches for personal expression via authentic experiences.

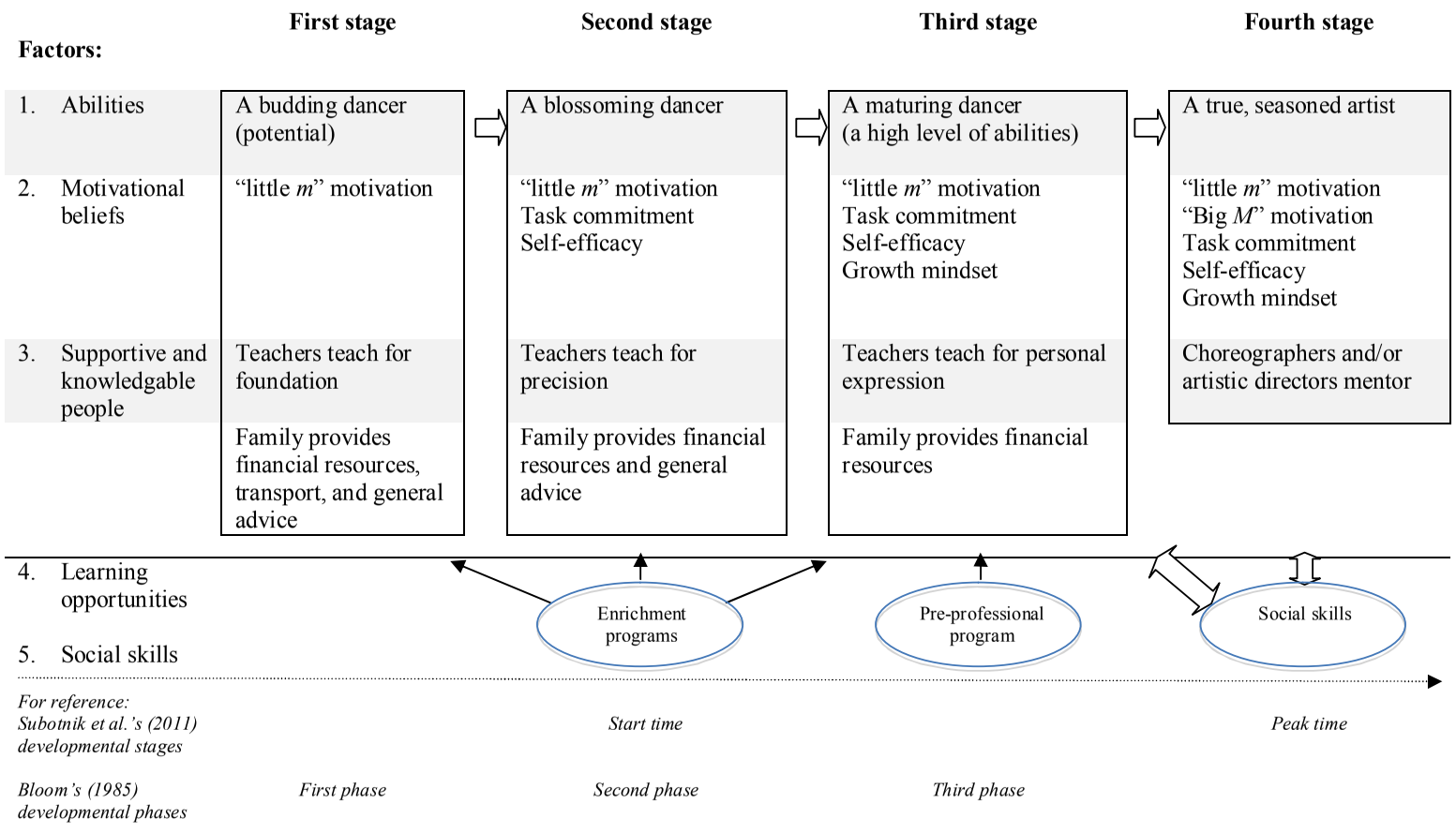
Moreover, the teacher provides tacit knowledge on how to succeed in the dance industry. Family support is still important, but is limited to financial support. Finally, a "seasoned dancer" is engaged as a full-time dancer and is living the dream of being a dancer. Motivational beliefs are in 'full gear'; "Big *M*" motivation is displayed in a desire to dance lead roles or in challenging productions.

Underpinning the first three stages is the importance of learning opportunities in the form of enrichment programs in dance schools. Access to a supportive and knowledgeable teacher via a credible dance school is critical, but dependable on a constellation of sociocultural contexts or chance (depicted by thin arrows). Especially important during the third stage is the availability of enrichment programs (e.g., summer programs, internship, and competitions) and a full-time pre-professional dance program that will propel the pre-professional dance student closer to the reality of becoming a dancer.

Social skills are important for "maturing" and "seasoned" dancers to actively seek roles from choreographers, artistic directors, or teachers, and establish collegiality with fellow dancers. I collapsed the importance of peers into this category, knowing that this is intertwined with the dancers' social skills (i.e., "sharing" with peers). I used dual-directions arrows in the model to show the possibility of a bidirectional relationship, that is, other people reacting to the sociable and highly motivated dancer or the dancer taking the initiative to approach others. I used broad arrows to depict the malleability of social skills and that they can be and should be taught to young students and dancers.

As I bring down the curtains on this final act, Preissle (2011) usefully reminded, "The nature of research [is] such that we are always engaged now in preparation for later, and later may be a year, 5 years, or 50 years away" (p. 685). At the heart of this business of being "engaged" and "prepared" is the researcher. As researchers, we play a significant role: The way we conceptualize, identify, and research "dance talents" will shape a more global understanding of dance talent development and giftedness in a specific domain. Sadly, researchers in the field of dance, despite their inherently good intentions, seem fixated on topics such as injuries, burnout, and the anxiety of dancers. If we continue to devote energy into unearthing dancers' negative experiences, then we too might contribute to an impoverished research thread that can negatively influence identification criteria and nurturing possibilities. Evidently, in this study, the dancers' and students' stories have revealed individuals who have achieved success or have remained steadfast to their goals by staying committed and motivated, taking risks, and daring to dream.

Figure 2. Conceptual framework for dance talent development



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Appendix A: Tables 1–6 (Act I)

Table 1. Abilities—Physical Fitness

Authors (year)/ *Source of publication*	**Identification criteria**	**Genre(s)**	**Sample Gender (size)**	**Level**	**Sample Age *Context***	**Developmental stage**	**Method**
Burckhardt, Wynn, Krieg, Bagutti, & Faouzi (2011) *J Dance Med & Science*	IBC	Ballet	F (N = 127)	PP	a *International*	Start	SR Q T
Doyle-Lucas, Akers, & Davy (2010) *J Dance Med & Science*	NBC	Ballet	F (n = 15) F (n = 15)	P CG	A *US*	Peak	Q T
Gupta et al. (2004) *Brit J of Sports Med*	V	Ballet Contemp.	F (n = 34) F (n = 37)	PP CG	a & A *Australia*	Start	T
Hamilton et al. (2006) *Brit J of Sports Med*	V	Ballet	F (n = 64)	PP	a & A *Australia*	Start & Peak	T
Kadel, Donaldson-Fletcher, Gerberg, & Micheli (2005) *J Dance Med & Science*	RBS	Ballet	F (n = 43) F (n = 43)	LS CG	C *US*	Start	T
Khan et al. (2000) *Clinical J of Sport Med*	NBS	Ballet	F (n = 28) M (n = 20)	PP PP	a & A *Australia*	Start	T

McCormack, Briggs, Hakim, & Grahame (2004) *J of Rheumatology*	NBS NBC	Ballet	F (*n* = 47) M (*n* = 38) F (*n* = 35) M (*n* = 29) F (*n* = 21) M (*n* = 15) F (*n* = 43) M (*n* = 28) F (*n* = 16) M (*n* = 15)	LS LS US US CG for US CG for US P P CG for P CG for P	a a a & A a & A a & A a & A A A A A *UK*	Start Start Start Start N/A N/A Peak Peak N/A N/A	T
Micheli, Cassella, Faigenbaum, Southwick, & Ho (2005) *J Dance Med & Science*	PBC	Ballet	F (*n* = 39) M (*n* = 29)	P P	A *US*	Peak	T
Mišigoj-Duraković et al. (2001) *Collegium Antropologicum*	NBC	Ballet	F (*n* = 15) F (*n* = 15)	Soloist Corps	A *Croatia*	Peak	T
Oreb et al. (2006) *Collegium Antropologicum*	NBC PC	Ballet Folk	F (*n* = 30) F (*n* = 21)	P P	A *Croatia*	Peak	T
Richardson, Liederbach, & Sandow (2010) *J Dance Med & Science*	RBS CP	Ballet	F (*n* = 33) F (*n* = 4)	PP CG	C & a *US*	Start	T R
Walker, Nordin-Bates, & Redding (2011) *High Ability Studies*	CAT	Ballet Contemp. Other	F (*n* = 250) M (*n* = 84)	PV PV	C & a & A *UK*	Start	T
Weiss, Shah, & Burchette (2008) *J Dance Med & Science*	PC	Modern	F (*n* = 135) M (*n* = 49)	P P	A *US*	Peak	Q

Table 2. Abilities—Memory

Authors (year)/ ***Source of publication***	**Identifi-cation criteria**	**Genre(s)**	**Sample** **Gender (size)**	**Level**	**Sample** **Age** ***Context***	**Develop-mental stage**	**Method**
Bläsing & Schack (2012) *Spatial Cogn & Computation*	NM	Ballet Modern	Pas assemblé F (n = 8) M (n = 7) Pirouette F (n = 10) M (n = 7) F (n = 15) M (n = 3) F (n = 13) M (n = 6)	 Expert Expert Expert Expert Am Am N N	 A A A A a & A a & A A A *NM*	 Peak Peak Peak Peak N/A N/A Peak Peak	E
Bläsing, Tenenbaum, & Schack (2009) *Psychology Sport & Exercise*	PC	Ballet Modern	Experiment 1 F (n = 10) M (n = 6) F (n = 17) M (n = 3) F (n = 7) M (n = 3) Experiment 2 F (n = 9) M (n = 7) F (n = 15) M (n = 3) F (n = 7) M (n = 3)	 Expert Expert Am Am N N Expert Expert Am Am N N	 E1 & E2 A *NM*	 Peak Peak N/A N/A N/A N/A Peak Peak N/A N/A N/A N/A	E
Calvo-Merino, Glaser, Grèzes, Passingham, & Haggard (2005) *Cerebral Cortex*	NBC PD	Ballet Capoeira	M (n = 10) M (n = 9) M (n = 3)	P P N or CG	A *UK*	Peak	T
Calvo-Merino, Grèzes, Glaser, Passingham, & Haggard (2006) *Current Biology*	NBC	Ballet	F (n = 12) M (n = 12)	P P	A *UK*	Peak	T

Calvo-Merino, Ehrenberg, Leung, & Haggard (2010) *Psychological Research*	PD	Ballet	F (*n* = 12) M (*n* = 12) F (*n* = 12) M (*n* = 12)	P P CG CG	A *UK*	Peak	E

Table 3. Abilities—Musicality, and Traits—Personality

Authors (year)/ ***Source of publication***	**Identifi-cation criteria**	**Genre(s)**	**Sample** **Gender (size)**	**Level**	**Sample** **Age** ***Context***	**Develop-mental stage**	**Method**
Abilities—Musicality							
Côté-Laurence (2000) *Res Dance Edu*	RBS	Ballet	F (*n* = 3) M (*n* = 2)	Teachers Teachers	A *Canada*	Peak	I O
Traits—Personality (and creativity)							
Fink & Woschnjak (2011) *Personality & Indiv Differences*	PD	Ballet (*n* = 20) Modern (*n* = 20) Other (*n* = 20)	F (*n* = 43) M (*n* = 17)	P P	A *Austria* (*n* = 54) & *5 European nations* (*n* = 6)	Peak	Q T

Table 4. Creativity

Authors (year)/ ***Source of publication***	**Identifi-cation criteria**	**Genre(s)**	**Sample** **Gender (size)**	**Level**	**Sample** **Age** ***Context***	**Develop-mental stage**	**Method**
Fink, Graif, & Neubauer (2009) *Neuroimage*	NM	Ballet Modern	F (*n* = 11) M (*n* = 4) F (*n* = 14) M (*n* = 3)	P P N or CG N or CG	A *NM*	Peak	T E
Fink & Woschnjak (2011) *Refer to table 3*							
Lussier-Ley & Durand-Bush (2009) *Res in Dance Edu*	PP	Ballet Contemp.	F (*n* = 5) M (*n* = 1)	PP PP	A *Canada*	Start	I
Rowe & Zeitner-Smith (2011) *Res in Dance Edu*	PP	Ballet Contemp.	F (*n* = 4) M (*n* = 1)	Program Leaders (PL)	A *Denmark, New Zealand, & U.K.*	Start	I C
Watson, Nordin-Bates, & Chappell (2012) *Res in Dance Edu*	CAT	Contemp.	NM (*n* = 3) NM (*n* = 2) NM (*n* = 3) NM (*n* = 3) F (*n* = 8) M (*n* = 3)	PV PL Teachers Choreogra-phers NM NM	*a* *A* *A* *A* *U.K.*	Start	I

Table 5. Motivation

Authors (year)/ ***Source of publication***	**Identifi-cation criteria**	**Genre(s)**	**Sample** **Gender (size)**	**Level**	**Sample** **Age** ***Context***	**Develop-mental stage**	**Method**
Araújo, Cruz, & Almeida (2009) *Conference proc*	A	Contemp.	F (*N* = 2)	P	A *Portugal*	Peak	I
Critien & Ollis (2006) *Res Dance Edu*	PC	Ballet Contemp.	*F (n* = 7) M (*n* = 8)	P P	A *Numerous countries (Europe)*	Peak	I
Garces-Bacsal, Cohen, & Tan (2011) *Gifted Child Quarterly*	SAS TN	Contemp.	NM (*n* = 1) Year 2 NM (*n* = 1) Year 3 NM (*n* = 1) Year 4 F (*n* = 1) Year 4	PV PV PV PV	a &A *Singapore*	Start	I
Hefferon & Ollis (2006) *Res Dance Edu*	NBC NAC PC	Ballet Contemp. Other	F (*n* = 5) M (*n* = 4)	P P	A *Scotland*	Peak	I
Nordin-Bates, Quested, Walker, & Redding (2012) *Sport, Exer & Perf Psy*	CAT	Ballet Contemp.	Test 1 NM (*n* = 327) Test 2 NM (*n* = 264)	 PV PV	a & A *UK*	Start	Q
Pickard & Bailey (2009) *Sport, Edu & Society*	RBS	Ballet	NM (*N* = 63)	LS	C & a *UK*	Start	I
Quested & Duda (2010) *J Sport Exercise Psy*	V	Ballet Contemp.	F (*n* = 293) M (*n* = 96) Un (*n* = 3)	PP PP	a & A *UK*	Start	Q
Quested & Duda (2011) *J Dance Med & Science*	V	Ballet Contemp.	F (*n* = 293) M (*n* = 96) Un (*n* = 3)	PP PP	a & A *UK*	Start	Q

Ureña (2004) *PhD dissert*	NBC RBC U	Ballet	F (*n* = 42) M (*n* = 28) F (*n* = 17) M (*n* = 14) F (*n* = 49) M (*n* = 50) F (*n* = 31) M (*n* = 1)	P P P P P P U U	*US* *US* *Mexico* *Mexico* *Russia* *Russia* *US* *US* (All are A)	Peak Peak Peak Peak Peak Peak Start Start	Q

Table 6. Social support

Authors (year)/ ***Source of publication***	**Identifi-cation criteria**	**Genre(s)**	**Sample** **Gender (size)**	**Level**	**Sample** **Age** ***Context***	**Develop-mental stage**	**Method**
Felix (2004) *PhD dissert*	PN	NM	F (*n* = 2) M (*n* = 1)	P P	A *US*	Peak	I
Sanchez, Aujla, & Nordin-Bates (2013) *Res Dance Edu*	CAT	Ballet Contemp. Other	F (*n* = 1) M (*n = 6)*	PV	a & A *UK*	Start	I
van Rossum (2001) *High Ability Studies*	V	Ballet Modern Other	F (*n* = 103) M (*n* = 26)	PP PP	a & A *The Nether-lands* *(n = 88)* *Un (n = 41)*	Start	Q
van Rossum (2004) *J for the Edu of the Gifted*	V	Ballet Modern Other	F (*n* = 127) M (*n* = 30) F (*n* = 30) M (*n* = 9)	PP PP Teachers	a & A *The Nether-lands* *(n = 107)* *Un (n = 50)* (*n* = 39)	Start	Q

Legend for coding in Tables 1 to 6

Identification criteria coding

A	Achievements
CAT	U.K. Centers for Advanced Training
CP	Community program
IBC	International ballet competition
NAC	National arts council
NBC	National ballet company
NBS	National ballet school
PC	Professional company
PD	Professional dancers
PN	Peer nomination
RBS	Regional ballet school
SAS	Specialized arts school
TN	Teacher nomination
U	University dance students
V	Vocational school

Genre coding

Contemp.	Contemporary
Other	Other dance genres (e.g., jazz)

Level coding

AM	Amateur
CG	Control group
G	Graduates
LS	Lower school
N	Novice
P	Professional
PP	Pre-professional
PV	Pre-vocational
US	Upper school

Age coding

C	Children (9–12 years old)
a	Adolescents (13–17 years old)
A	Adults (over 18 years old)

Methods coding

C	Curricula
E	Experiment
I	Interview
O	Observation
Q	Questionnaire
R	Rating
SR	Self-rating
T	Test

*NM indicates *not mentioned*. Un indicates *unspecified*. N/A indicates *not applicable*.

Appendix B: Data sources used to construct Jamal's story (Act II)

Quotes in study (in chronological order)	**Original quotes**	**Sources**	**References**
Having the "conviction" that he "could actually make a success"	it was also tampered by the more practical side, meaning, hadn't I had the maybe conviction, that I could actually make a success out of it, I would not have tried it.	Research interview (February 28, 2013)	Not applicable
Therefore, he made his "life's most important decision" to become a ballet dancer instead of a lawyer:	Jamal admitted, "To become a professional ballet dancer was my life's most difficult decision."	Published interview	Zhou, W. (2011). Qì fǎ cóng yì: qīng chūn bù yán huǐ [Abandons law for the arts: Jamaludin has no regrets for his youth]. Lianhe Zaobao. Retrieved from www.factiva.com [In Chinese].
I think if that certainty, even though it may not have been clear then, but the possibility, that certainty of success was there, was what turned the tables and made me actually say 'Yes, I should then try this out.'	I think if that certainty, even though it may not have been clear then, but the possibility, that certainty of success was there, was what turned the tables and made me actually say 'Yes, I should then try this out.'	Research interview (February 28, 2013)	Not applicable

Quotes in study (in chronological order)	Original quotes	Sources	References
"One thing that has driven me [when I was] young," Jamal said, "which probably was a major contributory factor for my dancing, was the fear of mediocrity. Even when in school, in whatever I did, I did not want to be average."	One thing that has driven me from young, not just, which probably was a major contributory factor for my dancing was the fear of mediocrity. Even when in school, in whatever I did, I did not want to be average	Research interview (February 28, 2013)	Not applicable
Jamal felt that the stigma of male ballet dancers was "rather insignificant" to him; rather, he was "extremely upset" when artists are viewed as "idlers."	Jamal said, "Actually, the stigmatism against male dancing was rather insignificant to me; what makes me extremely upset was when people viewed artists as idlers."	Published interview	Zhou, W. (2011)
Close friends and family members thought that his decision to abandon law for ballet was "unbelievable" or even "foolish."	Having said that, people who knew Jamal regarded his decision to forsake law for ballet was unbelievable or even foolish.	Published interview	Zhou, W. (2011)
"Maybe because I gave up some things in life," he explained, "that incited me to want to earn people's respect and recognition with my dancing."	"Maybe because I gave up some things in life that incited me to want to earn people's respect and recognition with my dancing."	Published interview	Zhou, W. (2011)
He was "so bored" while working part-time after his 'A' level examinations (or grade 12) that when a friend suggested that he study ballet, he pounced on it.	Jamal still remembers the incident with amusement: "After my 'A' levels in 1981, I was so bored. I worked in a florist shop and shoe shop. When Elizabeth suggested dancing, I said 'Why not?'"	Published interview	Saini, R. (1989, February 10). Law grad who turned to ballet. *Straits Times.* Retrieved from www.newspapers.nl.sg

Quotes in study (in chronological order)	**Original quotes**	**Sources**	**References**
"My goal in life is actually to get a good job and earn money."	because coming from that [socioeconomic] class, you would think "Oh, my goal in life is actually to get a good job and earn money"	Research interview (February 28, 2013)	Not applicable
Yet, at 18 years old, he discovered that he "loved" ballet after trying it out for only three months.	"And I tried [ballet] out for three months and I discovered that I loved it and was told that I have talent for it, I think."	TV interview	Dunn, P.J. (Writer and director). (2004). Just dance? [Video-recording]. In Chow, T. (Producer), *Swans and tigers*. Singapore: Rosebud Film Consultants Pte Ltd.
"If not for the formation of the Singapore Dance Theatre," Jamal said, "the prospect of pursuing a professional career in dance would not have been a concrete idea in my head."	if not for the formation of, say, the Singapore Dance Theatre, the prospect of having or rather, the prospect of pursuing a professional career in dance would not have been a concrete idea in my head.	Research interview (February 28, 2013)	Not applicable
Finally, Jamal reached the pinnacle of his dancing career when the Les Grands Ballets Canadiens de Montréal's artistic director Lawrence Rhodes "talent spotted" Jamal in New York	He was later talent spotted and joined Les Grands Ballets Canadiens de Montréal, one of the top [three] ballet companies in Canada in 1996. [Member check: it was Lawrence Rhodes who talent spotted Jamal]	Published CV at institutional website	Nanyang Academy of Fine Arts (2014). Department of Dance: Jamaludin bin Jalil. Retrieved from http://www.nafa.edu.sg/admissions/why-nafa/teaching-staff/profile/jamaludin-jalil

Appendix C: Field experiences

"Don't 'over cross' your *arabesque* leg," hollers the ballet teacher Kate at me, "it should be right behind you!" About 20 to 30 'balletomanes' aged 14 to 74 crowd around me in the windowless dance studio in Helsinki. To my right is a door that leads to the ladies' changing room, and I desperately want to escape there. I stand stiffly and steal a glance in the mirror. It is a frightening sight: my face has turned lobster-red.

I have been deliberating whether to attend the eight-weeks' summer ballet course at this particular dance studio where a few of my Finnish research participants—a dancer, a parent, and dance students—have attended and lauded. I continue to debate with myself for more than two months, agonizing whether such participant observation constitutes data. Worse, what if I meet my research participants there? What if I perform poorly? During my interview with Christina, she says candidly: "Because I can learn something from [the dance audition]." Also, Ginny says matter-of-factly: "If I don't try, if I don't practice, I will never improve. Trying is better than not trying at all." Their words echo louder and louder in my ears, reminding me of the importance of growth mindset in dance talent development. Rather reluctantly, I sign up for the course online and find myself almost 300 euros poorer.

Growth mindset requires my willingness to learn (from mistakes especially) and to believe in my ability to transform. This becomes my mantra for the entire summer in 2013. Incidentally, I am coding the dancers' transcripts for my second article at about the same time, and I particularly focus on this trait. "Praises" and "corrections"—I write in my 7 pages of notes, tabulating the (few) positive and (many) negative comments Kate say to me. My obsession in learning and 'metamorphosing' comes to the fore when I dream that "I can do 5 pirouettes effortlessly and wins endless praises from the teacher."

"Oikein hyvää!" [*really good* in Finnish] the second ballet teacher Anna alerts me when I successfully *pirouette* from a second position. I pull off the brightest smile across my face as a token of my appreciation. Despite the criticisms, collectively, the teachers' reassurances strengthen my self-efficacy. "Ok, I can do it," I tell myself. However, I do not always feel this way. I recall those times when I was a pre-professional student: I constantly yearned for validation from teachers of my talent. Do my young student-participants feel the same way? As a result of my ballet pilgrimage, I decide to investigate deeper about the role of teachers—How exactly do teachers "support" the students? How does one conceptualize "support"? That is how I decide the topic of my third and final article.